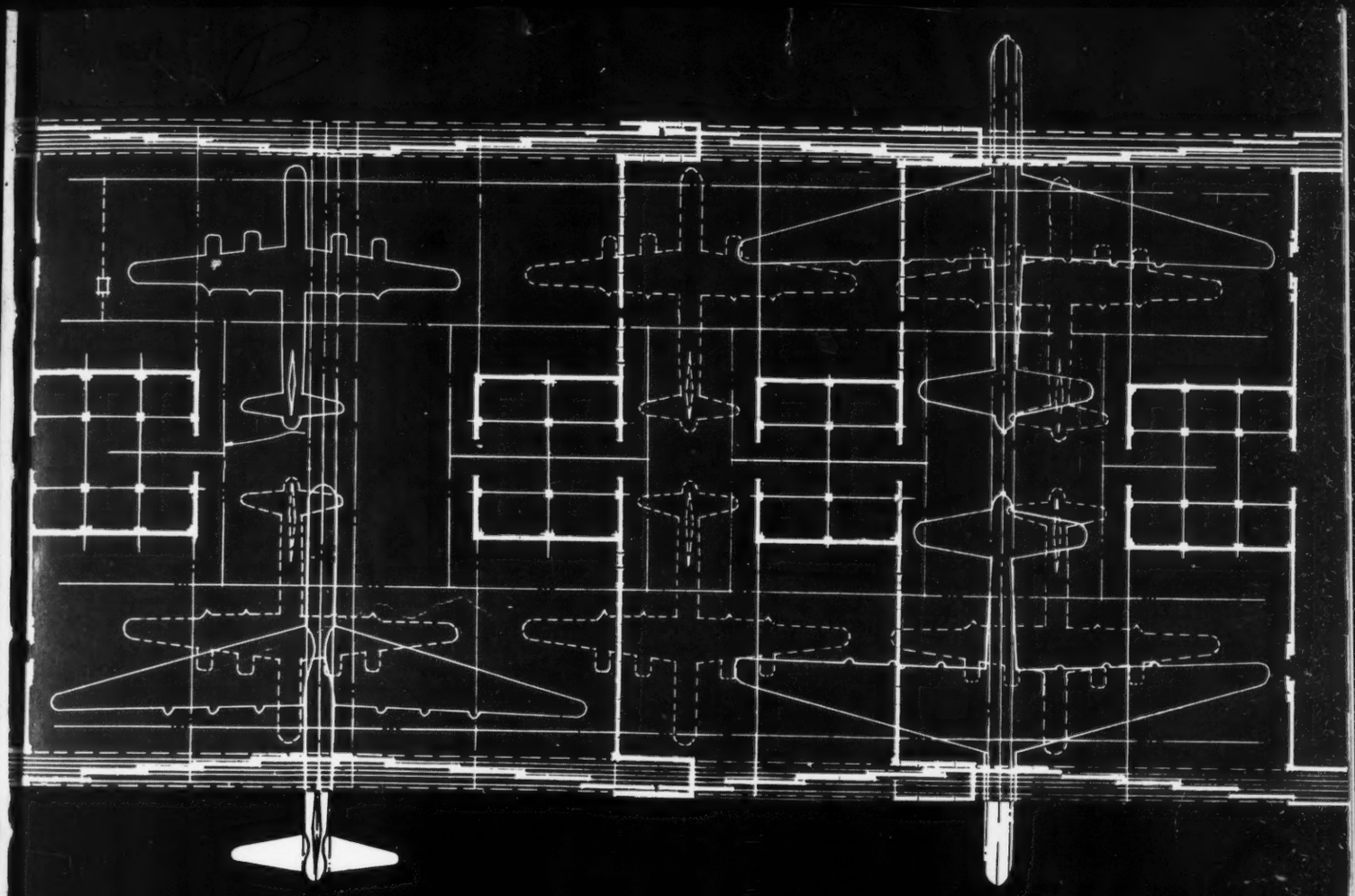
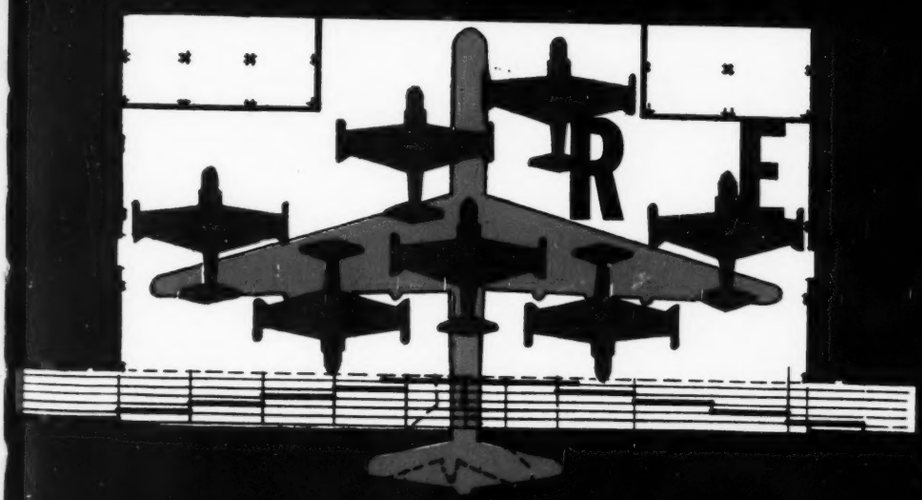
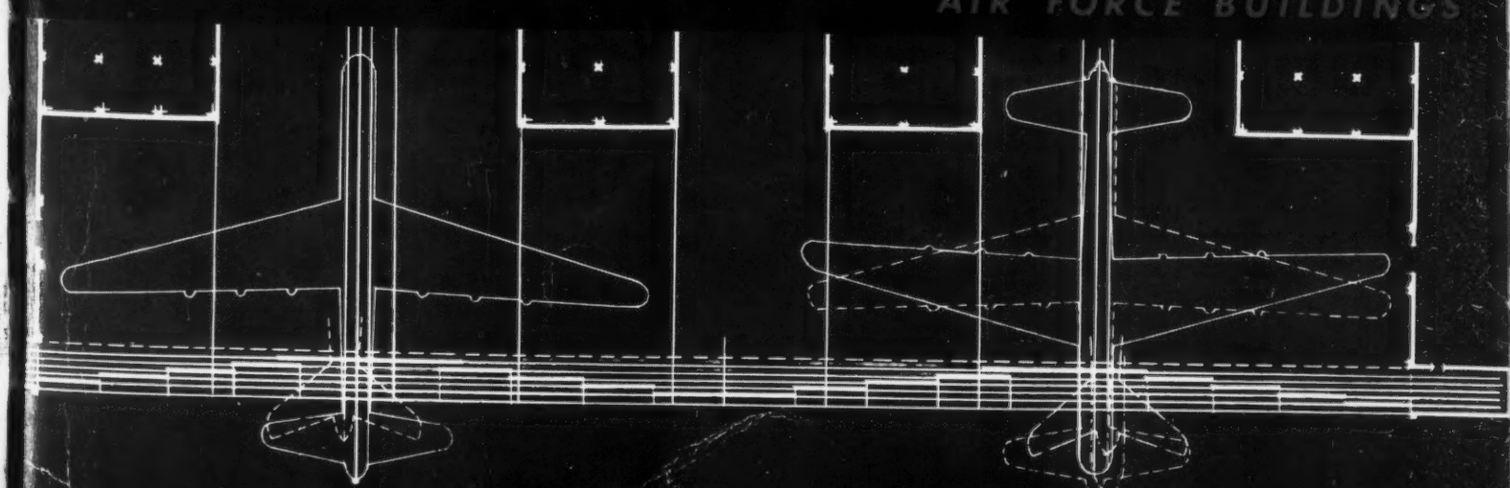




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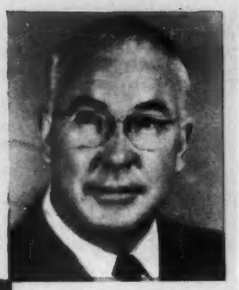
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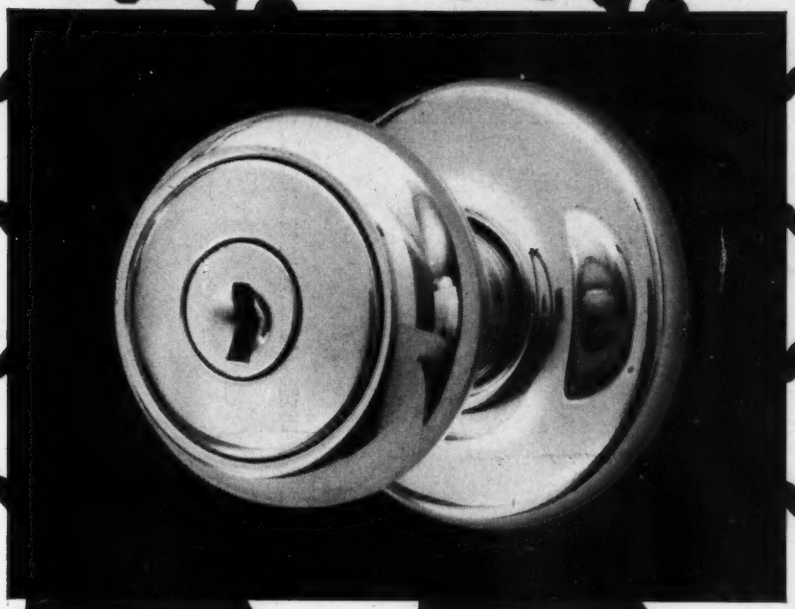
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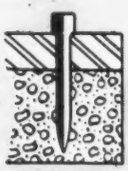
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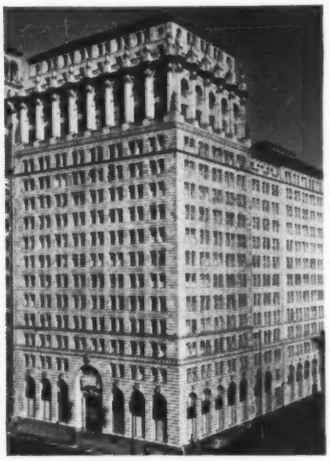
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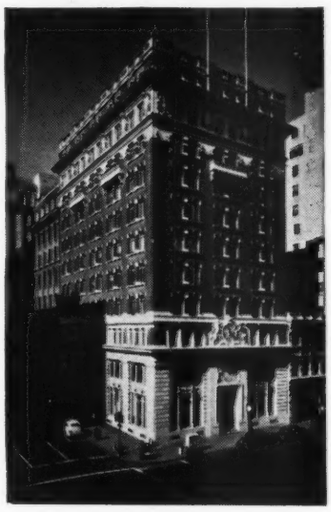
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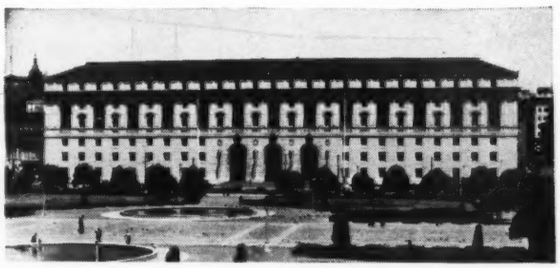


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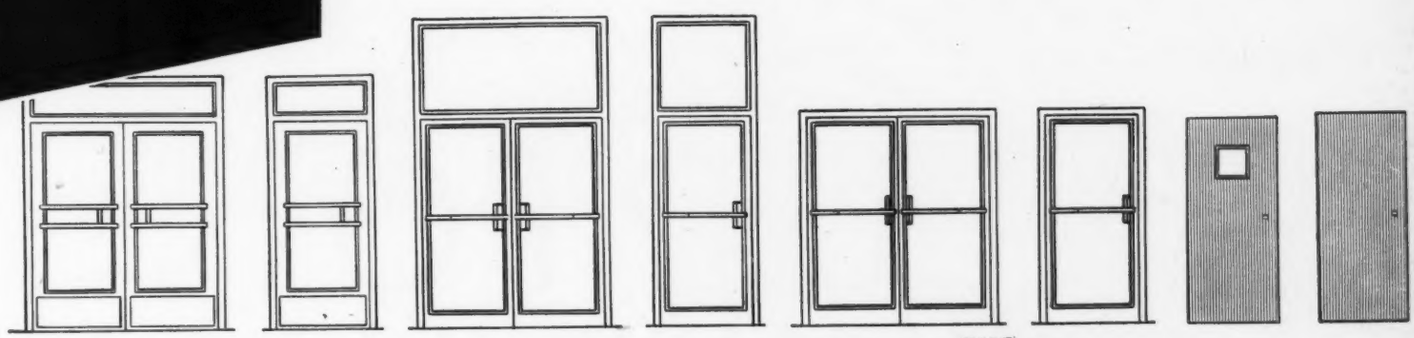




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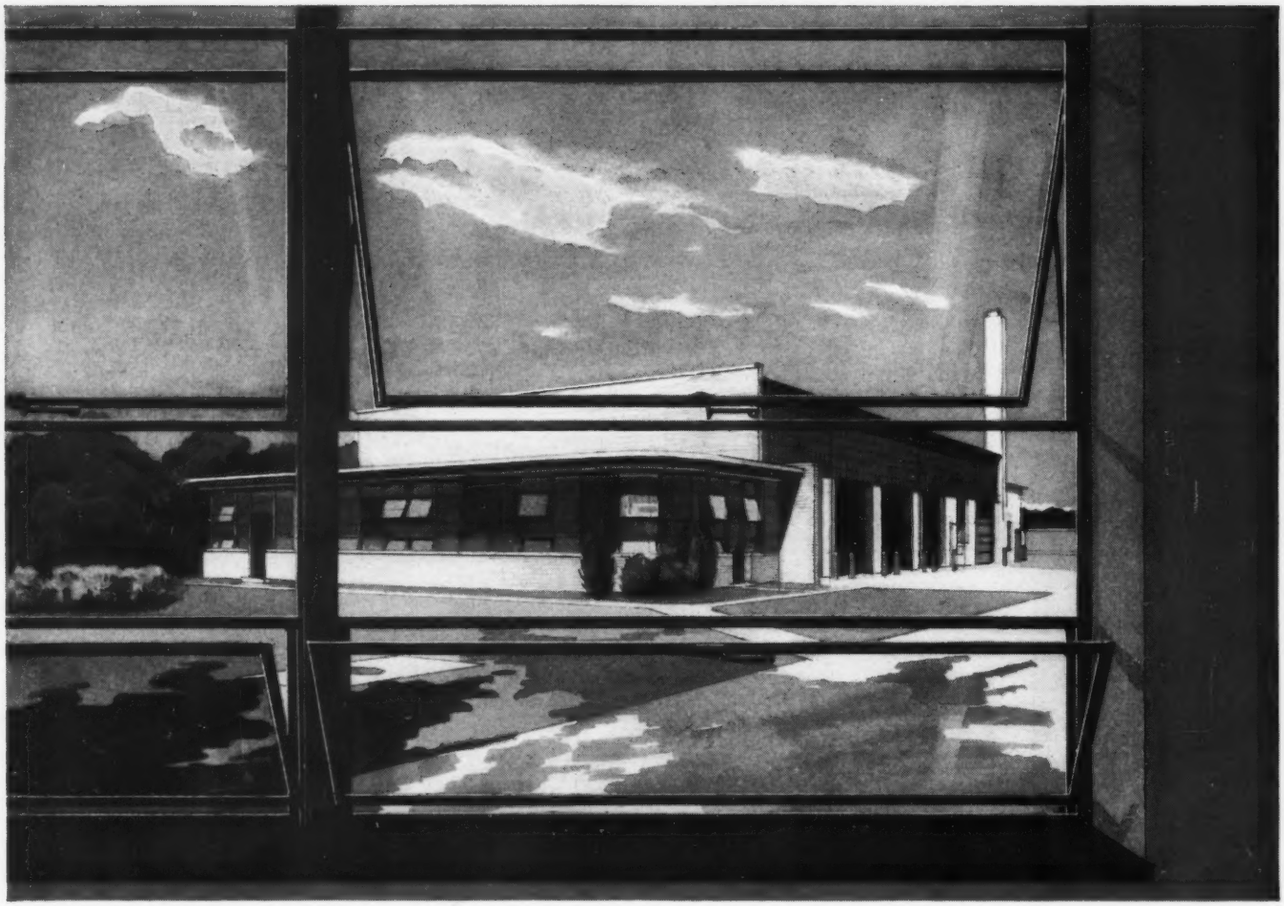
The Kawneer Entrance Line is the most complete in the industry. Consult your portfolio of Kawneer details, Sweet's Catalog, or write The Kawneer Company, Dept. MB-82, 1105 N. Front St., Niles, Mich., or Dept. MB-82, 930 Dwight Way, Berkeley, Calif.



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LUPTON
METAL WINDOWS

HIGH QUALITY BUILDINGS TAKE CALIFORNIA AWARDS AS 114 ENTRIES COMPETE

32 Projects in Seven Groups Honored in A.I.A. Program

ARCHITECTS, owners and contractors shared the honors when the awards were given for 32 building projects in a competition sponsored by the Southern California and Pasadena chapters of the American Institute of Architects.

The first architectural competition in the area in three years drew 114 entries in seven categories; but its success didn't have to be measured by size, as the quality of the buildings shown here and on the next two pages testifies.

Besides the two Distinguished Awards and 11 Honor Awards, there were 18 Honorable Mentions and one Special Citation. The competition was open to all members of the sponsoring chapters, about 500 in all. Buildings erected since 1946 were eligible for submission.

A three-man jury spent four days screening the entries. Jurors were Dean William Wurster of the University of California's School of Architecture; Harris Armstrong of St. Louis; and Lawrence B. Perkins of Chicago.



Distinguished Awards: Children's camp for City of Los Angeles Department of Recreation and Parks—Whitney Smith, A. Quincey Jones and Edgardo Contini, architects, engineers and site planners; U.C.L.A. Elementary School—Robert E. Alexander, architect. Photo above shows play area in camp's main building and twin fireplace dividing it from dining area. Below: U.C.L.A. school entrance; use of outdoor area was commended



Distinguished Award winners with Southern California A.I.A. President John Landon and President Thomas S. Holden, F. W. Dodge Corp., special guest at presentation banquet. L. to r.: Whitney Smith; Mr. Landon; A. Quincey Jones; Mr. Holden; Robert E. Alexander; Edgardo Contini



Julius Shulman photos

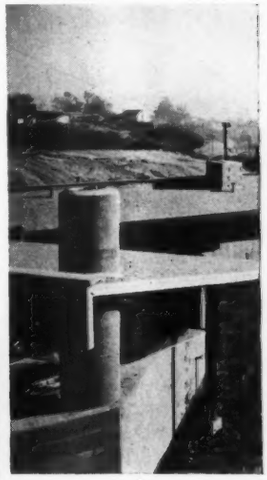


Residence of stone, redwood and glass for Mr. and Mrs. Arch Ekdale, San Pedro. Architects: Summer Spaulding and John Rex



Multi-deck structure for Beverly Medical Center parks 400 cars in 94,848 sq ft. Architects and engineers: Pereira & Luckman

THE RECORD REPORTS: CALIFORNIA HONOR AWARDS





Oneonta Congregational Church, South Pasadena, brick and redwood. Architects: Marsh, Smith & Powell



Residence of redwood and natural stone for Miss Zona Hall, West Los Angeles, has outdoor pool. Architect: Edla Muir

Julius Shulman photos



Mid-Wilshire Medical Building for Pacific Projects, L. A. Architect: Victor Gruen; associate: R. L. Baumfield



Administration Building, Culver City Unified School District, Culver City, Cal. Exterior walls are brick and copper. Architects and engineers: Daniel, Mann, Johnson and Mendenhall



500-family community for Mutual Housing Association, Brentwood. Architects, engineers and site planners: Whitney Smith, A. Quincey Jones, Edgardo Contini



Residence and office for Mr. and Mrs. John E. Baird. Cost: $6800 for 742 sq ft, including blacktop, paving of brick, curbs, fill planting and draperies. Architect: Edward Killingsworth



Residence of stone and redwood for Mr. and Mrs. Arthur Hanisch, Pasadena. Architect: Henry Eggers; assoc., Walter Wilkman



Residence of reinforced concrete, aluminum and glass for Mr. and Mrs. Warren Tremaine, Montecito, Cal. Architect: Richard Neutra



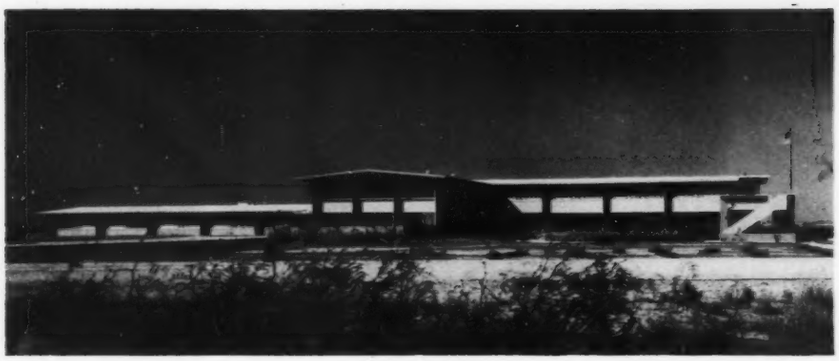
AUGUSTE PERRET NAMED FOR A.I.A. GOLD MEDAL

77-Year-Old French Architect Chosen for 1952 Award

AUGUSTE PERRET, 77-year-old French architect whose eminence has been little recognized outside the profession in this country, will receive the Gold Medal of the American Institute of Architects at the national convention of the A.I.A. in New York next June.

The Institute's highest professional honor has been awarded in recent years to Bernard Maybeck (1951), Sir Patrick Abercrombie (1950) and Frank Lloyd Wright (1949).

M. Perret, whose design of buildings in reinforced concrete has brought him worldwide recognition in the field, last visited this country in 1949. An exhibition of his work was shown in New York and Chicago in 1950.



Julius Shulman Photo

Another of the Honor Awards in the California program went to the Lea County Hospital, Hobbs, N. Mex., 80 beds, public and private. Architects and engineers: Pereira and Luckman; associate: Truman J. Mathews



A.I.A. President Glenn Stanton, in Charleston for last month's Craftsmanship Award meeting of the West Virginia Chapter, paid a visit to Governor Patteson at the same time. Above: L. D. Schmidt, chapter president; Walter F. Martens, president of the West Virginia State Board of Architects; Mr. Stanton; and the governor

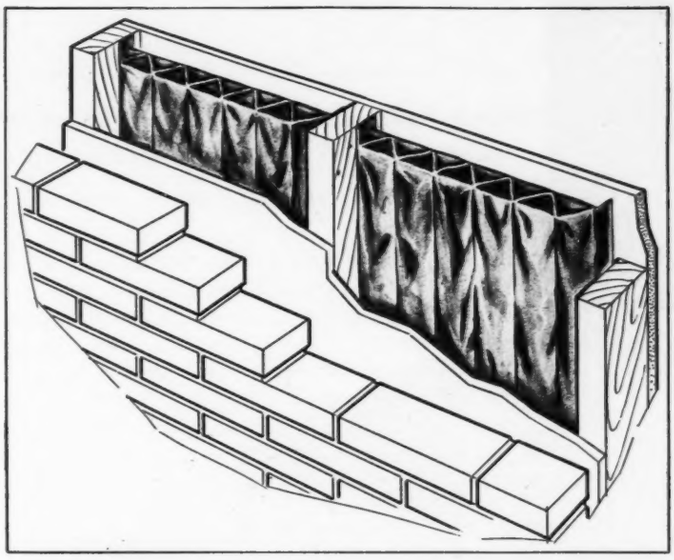


Alexander Macintosh, A.I.A., superintendent of New Facilities, Design and Construction at A.E.C.'s Oak Ridge National Laboratory, was one of the speakers at the BRAB conference. His article on radiochemical laboratories appears on pages 159–164 of this issue



At the recent Washington conference on design of laboratories to handle radioactive materials, jointly sponsored by the American Institute of Architects and the Building Research Advisory Board: A.I.A.'s Walter Taylor; Dr. W. N. Witheridge of General Motors; Bernis E. Brazier, architect; Charles Haines, of the architectural firm of Voorhees, Walker, Foley and Smith; and Thomas K. Fitzpatrick, chairman of the A.I.A. Committee on Atomic Design

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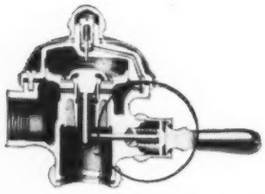
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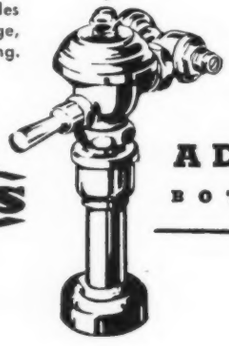




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NEWS FROM WASHINGTON *by Ernest Mickel*

Fleischmann Promises Materials Allocations by Project, Not by Quarter; End-Use Orders Expected for "B" Product Manufacturers; Shelter Design Manuals Coming March 1; Coogan Heads Housing for Armed Forces; Industry-Wide Session on Controls Set February 12

THE CONSTRUCTION INDUSTRY for the most part began its 1952 operations in an atmosphere of little optimism. The truce talks had bogged down in Korea during December. Defense agency officials had said repeatedly that settlement of the Korean conflict would have little effect (immediate effect) on the country's ever-accelerating mobilization program. Mounting, rather than diminishing, controls faced builders, large and small.

The possibility of one change in administration of controls appeared in Manly Fleischmann's "promise" to the Executive Committee of the American Institute of Architects of allocations of controlled materials for building on a project, rather than a quarterly basis.

Such a system would insure that what's started can be completed, and the A.I.A. hailed the statement as "the first major indication that the stream of critical evaluations of CMP . . . is having some effect on NPA policies."

When and how the statement would be implemented was not immediately apparent, but some amendments were expected early in the new year. Mr. Fleischmann acknowledged that the quarterly system had caused many difficulties in building, with its long-term commitments.

There was strong talk — and it was not without foundation — that new conservation orders would be applied soon to manufacturers; the "B" product producers who turn out thousands upon thousands of items that wind up as components, or finished products themselves, in completed equipment and projects. This talk was not new to the architects who, in a sense, had led the way toward greater conservation of scarce materials in their design practices.

While Defense Production Administration declined to confirm the reports as of mid-December, informal statements by defense agency officials indicated that the orders were being prepared to be in readiness for application when circumstances demanded them. When might this be? The most reasonable guess being made was right after the first of the year. Certainly, if the conservation regulations were to be applied, they could not wait until after exhausted inventories emptied the pipelines of supply and sent the plans for controlling the economy into a tailspin.

Inventory Trouble Coming

Inventories were fast becoming objects of greater concern at the turn of the year. In the building materials line, both DPA and National Production Authority spokesmen warned that things had been running fairly smoothly up to January 1, but that trouble from dwindling stocks could be expected in the first quarter of 1952. This was hammered out at every opportunity with special emphasis on the condition of copper and brass supplies. Here, DPA and NPA frankly looked for trouble to develop rapidly; trouble so severe that many producers, mainly smaller ones, might be thrown out of business altogether.

The plan to inaugurate the conservation (or limitation) orders was being devised as a supplementary assistance to the Controlled Materials Plan. It was believed the system could work as a prop to aid in keeping many firms in business that might otherwise have to fold, or at least turn to other lines that did not use the scarcest materials.

Standardization Tied In

Tied in with the conservation plan was a program of standardization and simplification conceived to throw available material into the production of more goods without actually depriving the manufacturer of any of his allocation. This apparently anomalous plan sought to force a simplification of design for many end items — such as door handles, locks, gears and a large array of construction products — resulting in the output of more of these without any increase in the quantities of material assigned to the manufacturer. In short, cutting out the frills and non-utilitarian features that consume any steel, copper, aluminum, nickel, etc. in the present processing can bring much larger numbers of needed goods for construction as well as durable goods production.

(*Continued on page 26*)

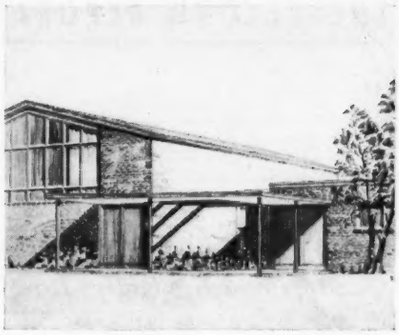


— Drawn for the RECORD by Alan Dunn

"Now the next move is up to Mrs. Truman . . ."

DETROIT PUBLIC LIBRARY





Royal York Road Elementary School, Etibicoke, Ont., features clerestory lighting on same side of room as conventional lighting. Architect: E. C. S. Cox, Islington

NEWS FROM CANADA *by John Caulfield Smith*

Architects and Engineers Reported Top Earners

ARCHITECTS AND ENGINEERS led all other Canadian earners in 1949, according to a government statistical report published in November.

Together they edged out lawyers and doctors, who in 1948 held first and second places respectively.

The tax collector counted 1210 architects and engineers. They had an average income of $10,248, were the only group whose average topped the $10,000 mark. Their average income tax amounted to $2460.

Wanted: A Company to Build New Cities

CANADA'S SHIFT from an agricultural to an industrial economy has been dramatically emphasized by the Ford Company's decision to build a multi-million dollar plant on 427 acres of farmland outside Oakville, Ont.

The new plant will employ 5000 workers. With their families, they'll constitute a town of 20,000 people. Since many of Ford's suppliers are expected to follow the company to Oakville, the population may actually be closer to 40,000 or 50,000. Present population is 7000.

Challenge to Planners

Obviously, comments *The Financial Post*, a leading business newspaper, here is a great opportunity for constructive community building. Conjured up is the vision of a thoroughly modern city with wide, well-laid-out streets, handsome schools and other public buildings, shopping centers with ample parking areas, clean industries, and quiet, attractive residential sections.

"In its way," the *Post* observes, "it could be as far in advance of the conglomeration of ugly chaos that characterizes most of our urban settlements as today's Ford is ahead of the Model T."

Zoning Safeguards Provided

The problem is how to make the dream come true. Local municipal authorities have had the foresight to draft zoning bylaws to guide the future development of the Oakville district. But zoning is necessarily restrictive rather than creative.

What is needed, says the *Post*, is something that doesn't exist. There is no community building agency in Canada with sufficient authority and capital to assume control of a new city site, plan it, build on it and turn the result into a happy, safe, rewarding place to work and live. Despite the possibilities for profitable, long-term investment that exist when the preservation and appreciation of realty values are assured, there's no organization to do the job that should be done for prospective residents of new cities and towns.

One Way to Do It

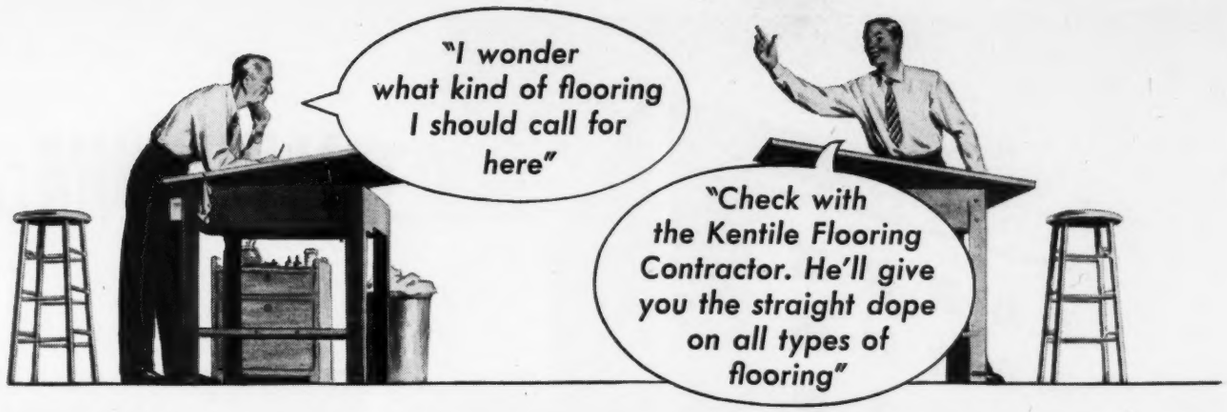
Precedents in the way of community building exist in U. S. and Britain, but they are public, not private. Perhaps a joint effort could be worked out in Canada.

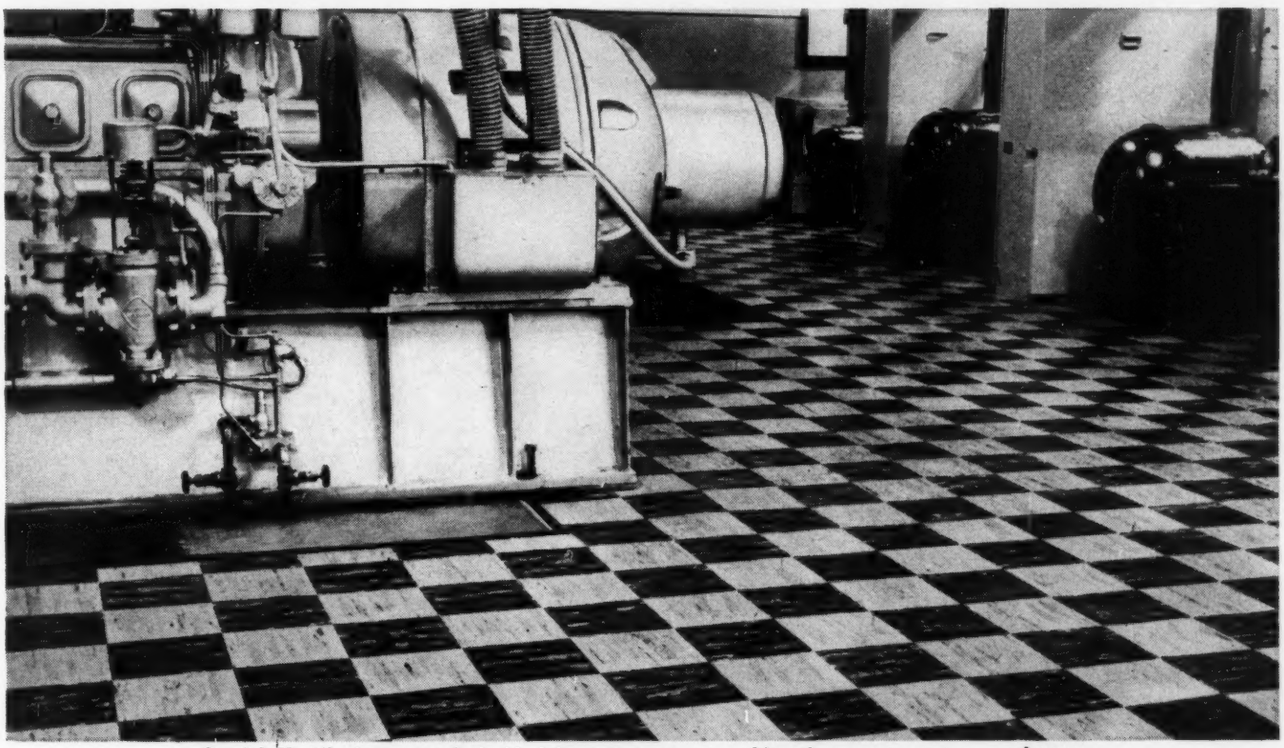
The province of Ontario possesses the legislation, including the right to expropriate, to assemble land without paying speculators' profits. At the same time, life insurance companies have tremendous sums to invest. Some of them, notably Sun Life, have been active in financing new U. S. communities like Park Forest, outside Chicago. They might welcome a chance to do as much in Canada.

(*Continued on page 288*)



St. Louis-Marie de Montfort Hospital, Ottawa, will provide 218 beds and 67 nursery cubicles, four major operating rooms, two delivery rooms and emergency operating suite as well as the usual diagnostic facilities. The top floor has accommodations for 50 nuns and nursing sisters. There is also a chapel seating 200. Kitchen and dining facilities are in the basement. Substructure is reinforced concrete; superstructure steel frame; exteriors will be cream brick. Architects: LeFort & Gilleland, Ottawa





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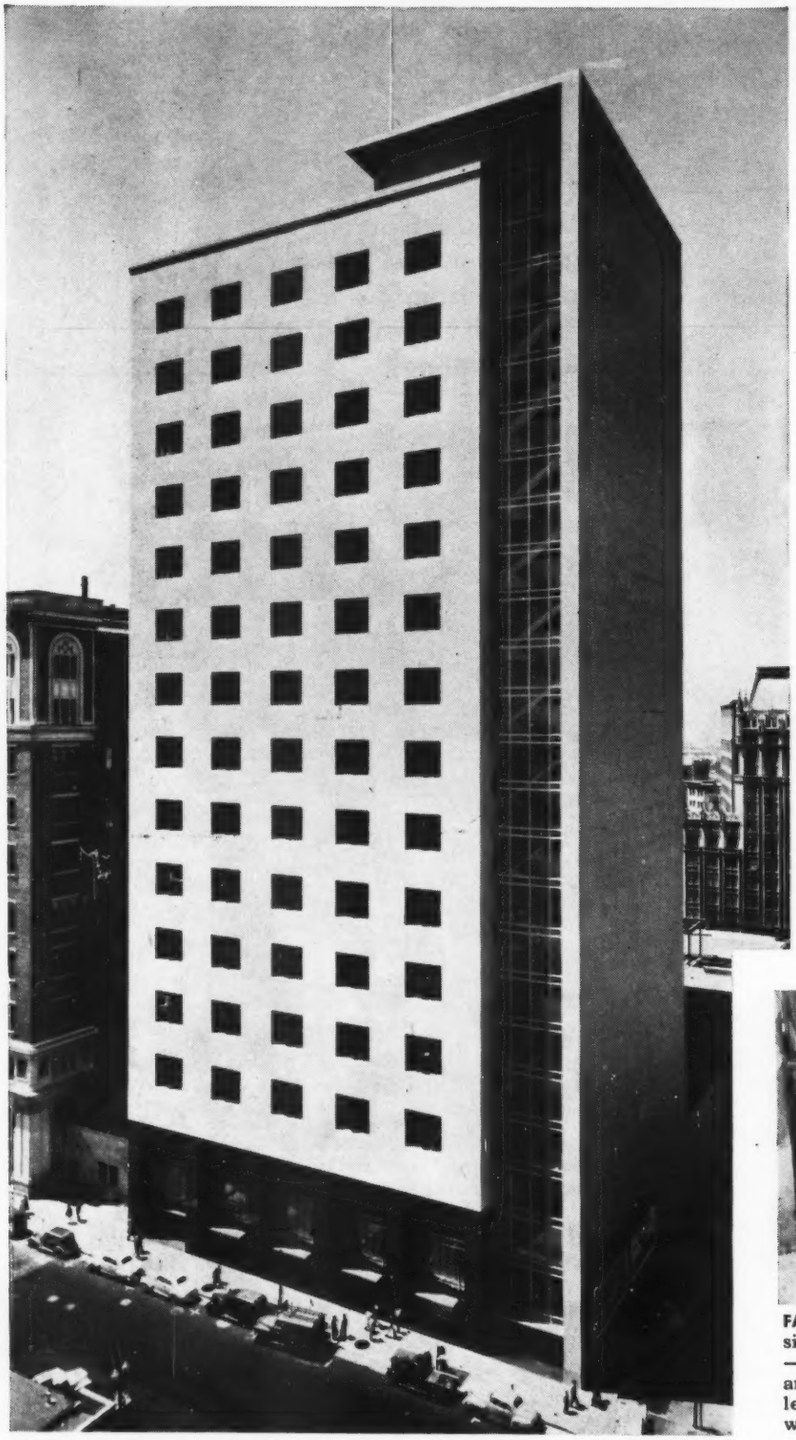
THE OBVIOUS advantages of a certain kind of flooring in a certain installation are often outweighed by disadvantages that can be foreseen only by the expert. To keep posted on the great number of products and materials available today would be so time-consuming that busy specifiers everywhere are learning to count on specialists for accurate and up-to-date information. Such a man is the Kentile Flooring Contractor. Call on him as often as you wish... you'll find his extensive background makes him a valuable addition to your "staff."

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ALUMINUM...



PACIFIC TELEPHONE & TELEGRAPH Company's Oakland, California, building used 49 tons of aluminum ducts in the heating and ventilating system. More than 90 per cent of it is *Kaiser* Aluminum.

ARCHITECTS: Thomsen & Wilson, San Francisco

BUILDER: Dinwiddie Construction Co., San Francisco

HEATING AND VENTILATING CONTRACTOR: Scott Company, San Francisco

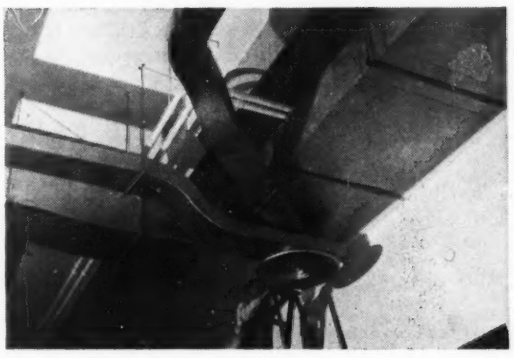
LIGHT, STRONG, corrosion-resistant Kaiser Aluminum is installed faster with less worker fatigue than heavier materials. Without insulation, it delivers as much heat as insulated galvanized steel—a fact proved in engineering tests.



KAISER ALUMINUM SIDING, installed vertically in The Cotton Shop, Chicago, gives effect of height, fits curved surface, hides heavy columns. Baked-on enamel coat is smooth, easy to clean, lasts longer. Architects: Walter H. Sobel, J. Stewart Stein. Contractor: Lee Construction Co., Chicago.



FABRICATING KAISER ALUMINUM into ductwork is so simple the contractors set up shop right on the job—and eliminated several steps in handling, trucking and storing assembled sections. Kaiser Aluminum is less wearing on shop equipment, can be fastened with rivets, by welding or with sheet metal screws.



BUILDING MATERIAL OF THE FUTURE!



TEST: Glaring, direct rays of the sun made west rooms of Tulsa's Alvin Hotel uncomfortable, caused requests for space changes. Kaiser Aluminum Shade Screening was tested for a full summer on a few west windows and proved it blocked the sun without blocking light and air.



RESULT: Kaiser Aluminum Shade Screening was applied to *all* west windows. Now the Alvin's west rooms are always cool and inviting, easy to rent. The hotel management reports Kaiser Aluminum Shade Screening has improved the exterior appearance, too, with its modern, gray-green alodized finish.



KAISER ALUMINUM ROOFING makes an attractive, modern store facade. Used as a remodeling material, it gives older buildings new sparkle, fresh appearance. Lower in cost than most architectural specialties, it needs minimum of maintenance because it's *solid* aluminum, not clad or veneered.

Aluminum will be among the most plentiful of metals when the present industry-wide expansion program is completed.

The building industry will see many new uses of this versatile metal as supplies increase.

So keep aluminum in your plans. Use it whenever and wherever you can. Be prepared to use it in a wider variety of applications in the future.

Check the Advantages of Aluminum

Attractive, modern aluminum offers a unique combination of advantages found in no other metal.

It is light in weight, yet strong enough for rugged service. Corrosion and rust-resistant, it gives long life with minimum maintenance.

On the job, aluminum keeps cost down because it is easy to handle and to fabricate. And it is lower in cost than most architectural specialties.

Heavy demands of the national security program limit the availability of aluminum. But before you specify less-satisfactory substitutes, check your dealer's supplies. You may still be able to give your clients the best: *Aluminum!*

Typical examples of Kaiser Aluminum

Building materials made of Kaiser Aluminum offer exclusive advantages in design, beauty and quality. Representative applications shown here prove *today* they're the building materials of the future.

For full information about any Kaiser Aluminum building product—and for AIA files—write: Kaiser Aluminum & Chemical Sales, Inc., Oakland 12, California. Sales offices in principal cities.

Kaiser Aluminum

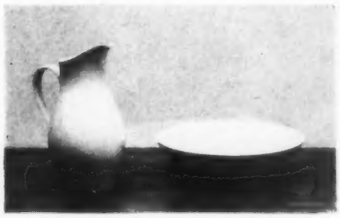
A major producer of

building materials for home, farm and industry

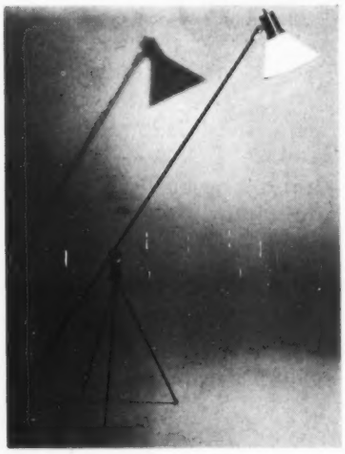
HOW GOOD IS GOOD DESIGN? CONSUMERS SPEAK



Most liked by consumers: oak frame chair with reed seat. Designer: Hans Wegner



Porcelain pitcher by Trude Petri-Raben, one of three much liked by consumer voters



Gilbert A. Watrous' metal tripod floor lamp was another highly popular item

THE 1951 GOOD DESIGN EXHIBITION at the Museum of Modern Art was the springboard for a spirited discussion at the second of the Museum's current series on "The Related Arts of Today."

Basis of the discussion, "How Good Is Good Design," was a collection of objects from the exhibition which a poll of consumer visitors had indicated were "most liked" and "most disliked."

On this occasion the "experts" and the consumers were not as far apart as is sometimes suggested. The simplest designs met with warmest approval from the consumers; and the professionals



A wooden chair with a flavor of "traditional" was among consumer "dislikes"

liked their choices, but were equally pleased with more complicated designs.

Members of the panel differed among themselves on some points, leading one of them, Ceramic Designer Eve Zeisel, to provide a useful summary statement with the reminder that "love is a very personal thing."

Others on the panel were: Christine Holbrook, editor of *Better Living;* Lasette van Houten, fashion editor of *Retailing Daily;* Paul McCobb, furniture designer; and Russel Wright, home furnishings designer. Edgar J. Kaufman, director of the Museum's Good Design project, was moderator.

Gropius Wins Howard Myers Award

DR. WALTER GROPIUS of Harvard has received the first Howard Myers Memorial Award of $500 for the "best written, most progressive and most influential" architectural writing in periodicals.

The award was given for Dr. Gropius' article "Not Gothic but Modern for Our Colleges," published in *The New York Times Magazine,* October 29, 1949.

There were two honorable mentions: Walter L. Creese, for his article "Architecture and Learning," *Magazine of Art,* April 1950; and Jean Murray Bangs for "Prophet without Honor," *House Beautiful,* May 1950.

The award is administered by the Committee on Scholarships and Special Awards of the Architectural League of New York.

New Honors for FLW

FRANK LLOYD WRIGHT was among six Americans recently elected to membership in the American Academy of Arts and Letters. The Academy, which has a life membership limited to 50, chooses each new member as "a creative artist whose works are most likely to achieve a permanent place in American culture."

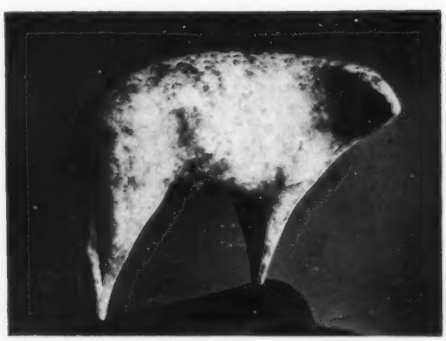
Mr. Wright has recently been named for another award — he was one of 100 persons to get "Centennial Awards for the Northwest Territory" at the Centennial Convocation of Northwestern University on December 2.

Architectural League Honors Sculptors

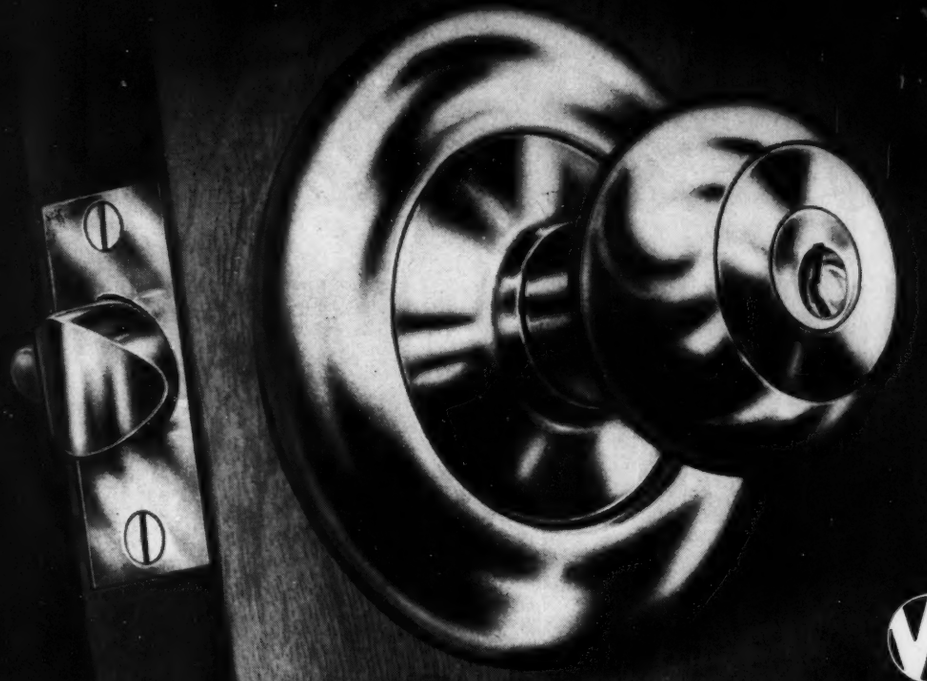
THREE AMERICAN SCULPTORS, Henry Kreis, Helen Wilson and Koren der Harootian, received honorable mentions for their entries in the Gold Medal Sculpture Show of the Architectural League of New York, this year holding its 55th annual Gold Medal Exhibition series. The jury felt that no entry merited the Gold Medal.

TOP AWARDS: AMERICAN SCULPTURE, 1951





For her cast stone statue "Two Men" (photo far left), New York Sculptress Minna Harkavy has won the $3500 first prize in the nationwide competitive sculpture exhibition sponsored by the Metropolitan Museum of Art. Rhys Caparn, also of New York, won the $2500 second prize for her hydrocal "Animal Form I" (photo at left). Other awards: third prize, $1500—Abbott Pattison, Chicago, for the bronze "Striding Man"; fourth prize, $1000—Joseph J. Greenberg Jr., Huntingdon Valley, Pa., for the bronze "Eve"; Honorable Mention—Emil Lazarevich, Palo Alto, Cal., for the cast stone "Woman with Lyre."



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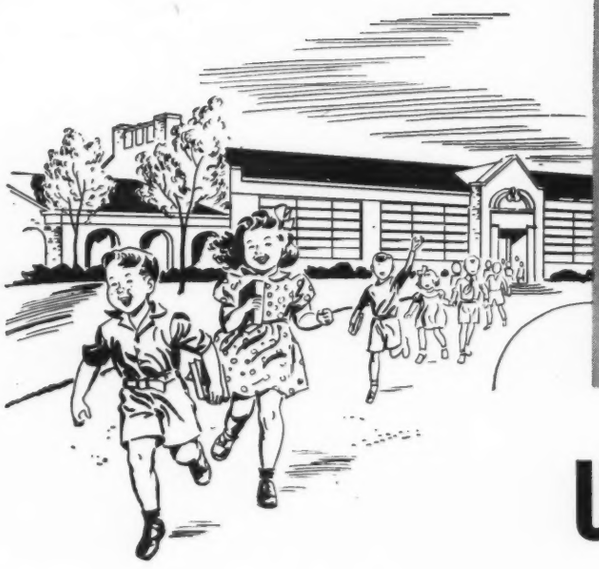
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HERMAN NELSON

Division of AMERICAN AIR FILTER COMPANY, INC.

MOLINE, ILLINOIS

WASHINGTON (*Cont. from p. 17*)

Officials are not fooling themselves into thinking that the implementation of this plan will result in saving any steel, copper or aluminum at the source, they say. But they remain convinced that something must be done if and when inventories dwindle too far, and they feel it's better to be prepared in advance. As one said: "If nothing is done, there just won't be enough to go around."

Their answer, then, lies in revising specifications, reducing the size and varieties of manufactured items in the hope that this will bring a multiplication of finished products rolling off the assembly lines.

More than CMP

The CMP has been content with apportioning estimated available supplies of steel, copper and aluminum. The use of this material, once it reached the producer, was largely up to him. Conservation orders would change this in that manufacturers would be told how and just to what extent the materials could be used in each product processed. Labor, production and handling costs would be saved at the same time.

There already is much activity along these lines — all of a voluntary nature. This was inevitable, say the planning officials, with allotments of scarce materials being cut so drastically. When a producer's "take" on copper drops to only 40 per cent of his base period use, for example, he's going to begin to think in terms of conserving that supply and stretching it into the production of more items. But the whole scheme apparently is not moving fast enough on the voluntary basis to suit the federal officials. They want to forestall trends that developed in World War II when some producers went the other way; dressed up their products with needless metal-consuming features to put them in a better competitive position. Limitation orders stopped the practice then; conservation orders might nip it now before it gets started on a broad basis.

Producers May Resist

Industry reaction, aside from patriotic motives, can be expected to be resistance. There will have to be assurance that the metal saved by design simplification can be used by the producer to further his output. This promises to be one of the knottiest problems in the proposal.

During the past few weeks some DPA officials have expressed their conviction that much improvement in the supplies of controlled materials could result from the application of a simplification and standardization system.

Follin Group for Program

Conservation in the use of controlled materials (principally metals) in the supplies for building purposes is being promoted every day by the construction subcommittee of DPA's Conservation Coordinating Committee. This group, headed by James W. Follin, is going to resist any move that might be made toward the substitution of ersatz products such as the plumbing fixtures turned out during World War II, but it will favor just as strongly the saving of metals through standardization and simplification. It points out that simplification cuts down the number of product lines at once and reduces inventory take while permitting usage to stay at the

(*Continued on page 28*)



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Resolite makes large skylight and wallight areas economical for corrugated industrial buildings because no special framing is required, either for support or weatherproofing — it nests with any standard corrugated sheet. Resolite permits substantial savings in plant lighting by its efficient diffusion of daylight through the building interior.

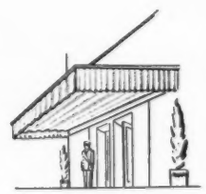
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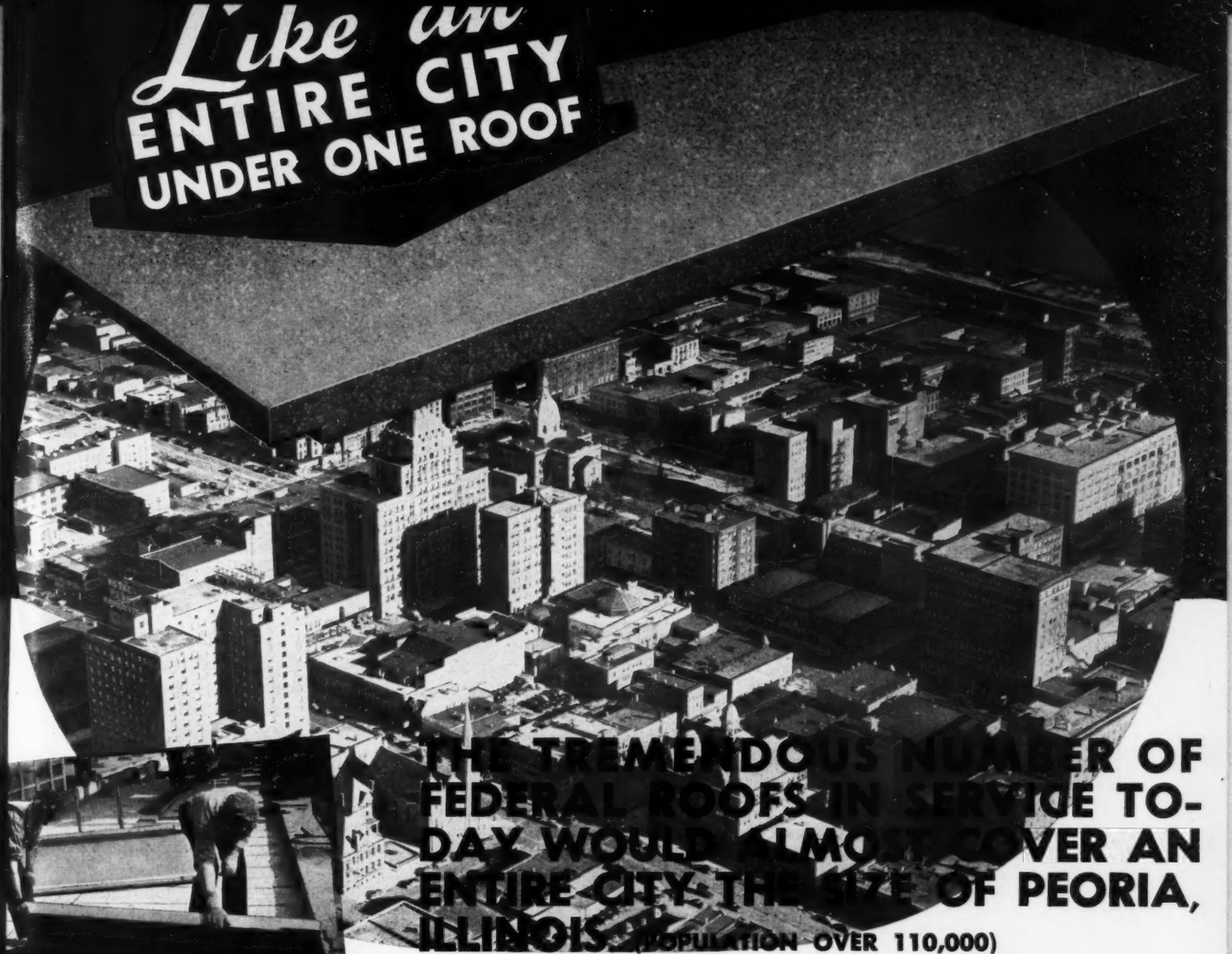


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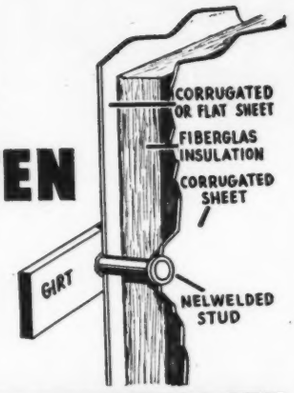
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DIVISION OF GREGORY INDUSTRIES, INC., LORAIN, OHIO

THE RECORD REPORTS

WASHINGTON

(*Continued from page 26*)

same level. This, in turn, reduces the demand for raw materials.

One Opinion on Copper

Mr. Follin has summed up the copper situation as follows:

"The greatest question respecting construction in 1952, particularly in the latter half of the year, is the doubtful adequacy of many building supplies for the finishing of structures of various kinds. This refers particularly to plumbing, heating, electrical and hardware supplies. Copper allocations to these segments of manufacturing have been greatly reduced in the third and fourth quarters of 1951 and further reduced for the first quarter of 1952. Copper allocation to plumbing brass manufacturers for the first quarter is only about 35 per cent of the usage during the base period, which was the first part of 1950.

"It is difficult to see how an adequate number of necessary items can be manufactured from the greatly reduced metal supply, *and conservation measures are very much in line here.*

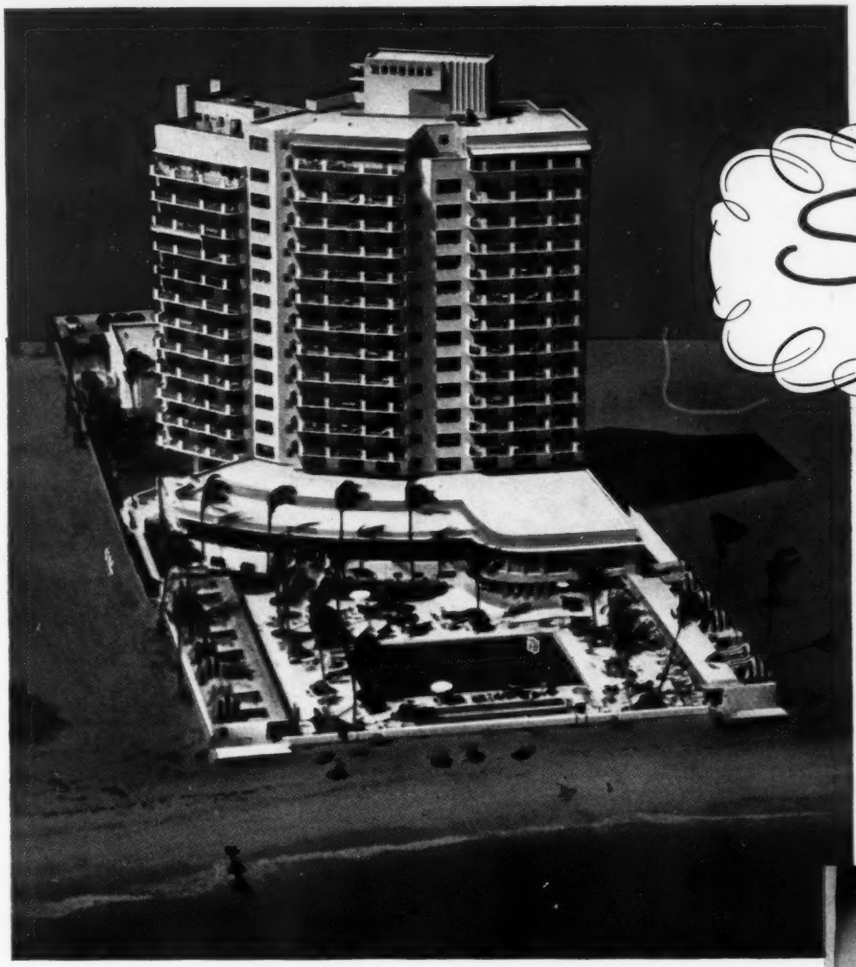
"The Industry Advisory Committee has recommended the adoption of a conservation program which would modify specifications, requiring substitutions where practicable, but also simplify production by reducing the variety of sizes and types. The latter move would make a one-time heavy reduction in metal use by reducing the amount tied up in inventories.

"Conservation can help close up the large gap between supply and demand. The pipe line of such products is still running fairly full and the real shortages may not be felt until the first or second quarter of 1952."

Design Effects: Now and Later

The architect is among the first to realize the effect of material shortages and to do something about it. In house design his influence already has been felt to a marked degree and will be increasingly shown in the months ahead. The private home builders recognize this when they say that the need for conservation of critical materials is going to stimulate many new ideas in home planning and in design and specification of materials in 1952.

(*Continued on page 30*)



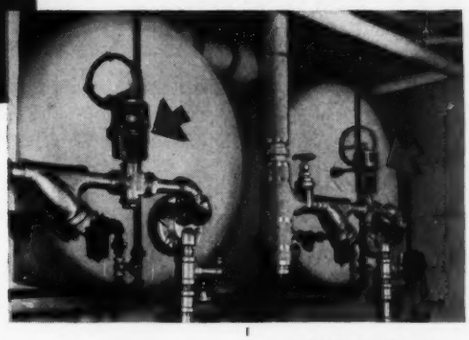
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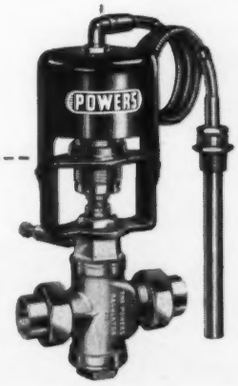
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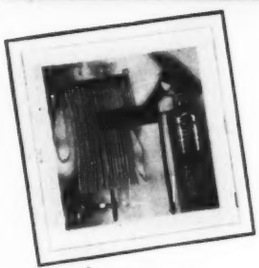
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THE RECORD REPORTS

WASHINGTON

(*Continued from page 28*)

Carl G. Lans, former director of the Technical Service Dept. of the National Assn. of Home Builders (now with Earl Smith, builder, El Cerrito, Cal.), calls attention to the testing of many materials designed to take the place of steel and copper. Some of them, Mr. Lans says, will receive limited acceptance by local and state authorities, and federal officials; but most of them will be forgotten because of the short time they will be needed. Critical metals are widely expected to be in better supply in 1953, leaving a relatively short time to force acceptance of substitutes, he points out, even though the alternate materials might be satisfactory in performance.

Lans Notes Some Trends

Mr. Lans suggests that the principal contribution to conservation will be in the planning stage. He looks for kitchens and baths to move to the front of the house, back-to-back, where the shortest possible utility connection will be required. This automatically places the living room toward the garden, where Mr. Lans says it ought to be.

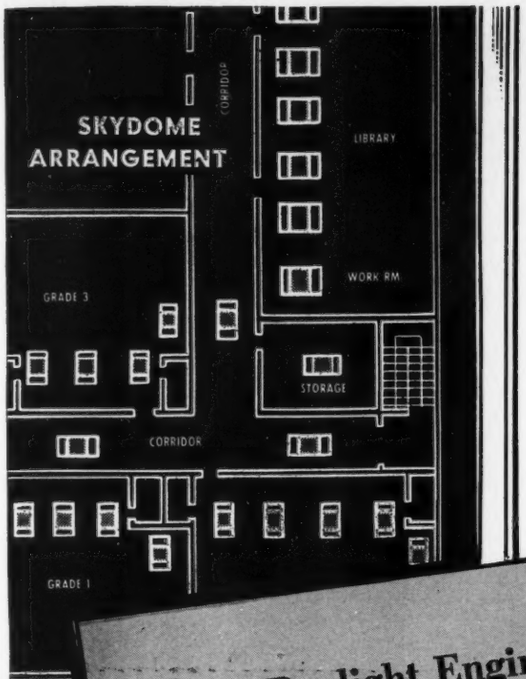
Other trends seen coming from steel shortages: increased use of wooden kitchen cabinets painted in a variety of colors; plastics in doorknobs, escutcheon plates, parts of faucets and other trim; standardization of plumbing layouts; and the casting of large soilpipe fittings to combine several fittings now used. Exterior design trends are seen heading for the "rational contemporary" in most parts of the country.

Long-Delayed FCDA Manuals Now Promised for March 1

An early December meeting in Washington helped pave the way for publication of the long-awaited shelter construction manuals of the Federal Civil Defense Administration. These now are scheduled to appear by March 1.

At the December meeting, industry representatives were introduced to the contents of the proposed publications and agreed they would be useful tools from the practical standpoint. These manuals follow the first in a series, which defined a technique for deter-

(*Continued on page 32*)



First Step to Better Daylighting:

A Wasco Daylight Engineering Study

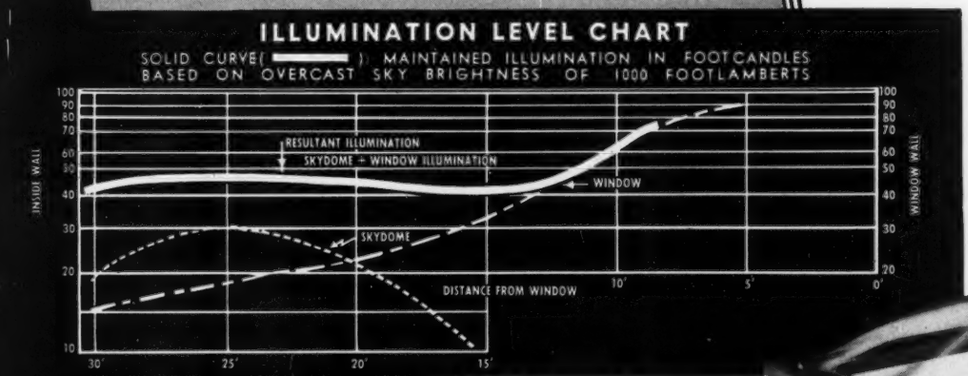
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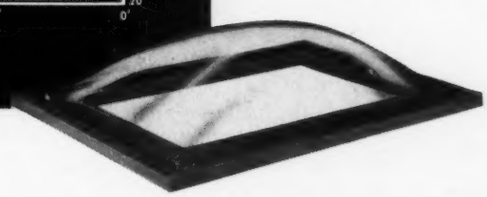
Daylight Engineering Study

For: Clays Mill Elementary School,
Fayette County, Ky.

Arch't: John F. Wilson, Lexington, Ky.
Date: November 10, 1951

Prepared by
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WASHINGTON (*Cont. from p. 30*)

mining what shelter is needed in terms of number of persons to be protected. The first manual was published some months ago and dealt primarily with the identification of existing structures as bomb shelter types. One of the forthcoming manuals, which actually will be a second part of the survey treatise, will suggest proper structural changes to bring existing buildings into the category one classification as bomb shelters.

Design Criteria for Shelters

The third publication, considered by some in the FCDA shelter division to be the most important in the series, will deal forthrightly with design criteria. The agency describes it as an interim guide for the design of buildings exposed to atomic blast load.

Contents of these forthcoming booklets was reviewed at the December sessions by the several representatives of industry (selected by the National Industrial Conference Board), by those who contributed material to the books, and by FCDA design engineers. The contents had been "cleared" earlier with architects and engineers.

Some in attendance asked if they should incorporate protective construction in new building activity immediately. FCDA, while not discouraging any effort toward bombproof design, explained that it would issue definite recommendations at the time the manuals appear. The location of the proposed structure, or of a present structure to be remodeled, is a strong determining factor in the treatment, architecturally, that it should be given, FCDA personnel say. The agency earlier sent states a list of supposed target areas. This document is still classified, but industries can go to their state civil defense offices and learn whether or not their plants and proposed plant locations are in the so-called target regions.

FCDA now is in the process of defining the "twilight zones," those areas not directly in the center of targets and yet where there should be an element of protection from bomb blast.

Coming: Textbook on Blast

All this leads to the future publication of a complete textbook on exposure of structures to A-bomb blast load. There's no indication of when this will come at the present time. The survey and improvement texts stand by themselves, but the No. 3 publication — on design criteria — is to be considered an interim guide pending printing of the more comprehensive report.

It sums up to this: FCDA wants those private concerns that know they are in the center of potential targets to get busy immediately on their protective construction plans; others can wait for the more complete guidance in the manual. As one official said, common sense should dictate the course of action.

New Moves on Housing: Eyes on Cost and Design

At long last some order was developing in military housing programs at the administration level. The Armed Forces Housing Agency created in September by the Department of Defense got a director last month — Thomas P. Coogan of Miami, former president of the National Association of Home Builders. An outgrowth of the old military construction commission, this new agency will have a broader field of operation. It goes

(*Continued on page 264*)



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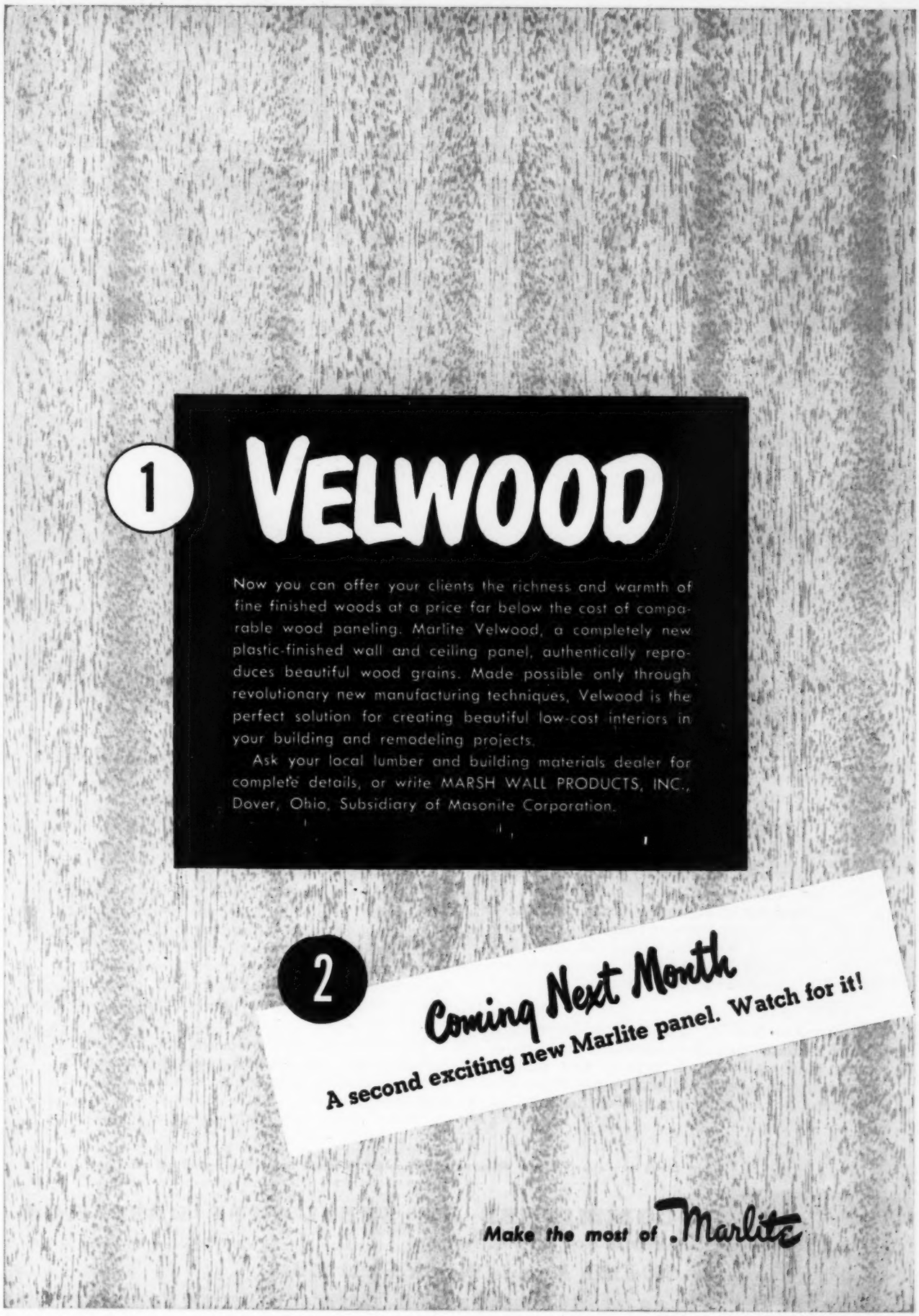
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Reliable steel pipe, proved in over 60 years of service in hot water and steam heating systems, is, of course, the first choice for these radiant panel heating systems. For it embodies *every* necessary characteristic—economy, formability, and weldability, and, durability that is satisfying beyond the life-span of the structure.

That's why those who design, specify, sell or install steel pipe radiant panel heating and snow melting systems are assured satisfied customers!

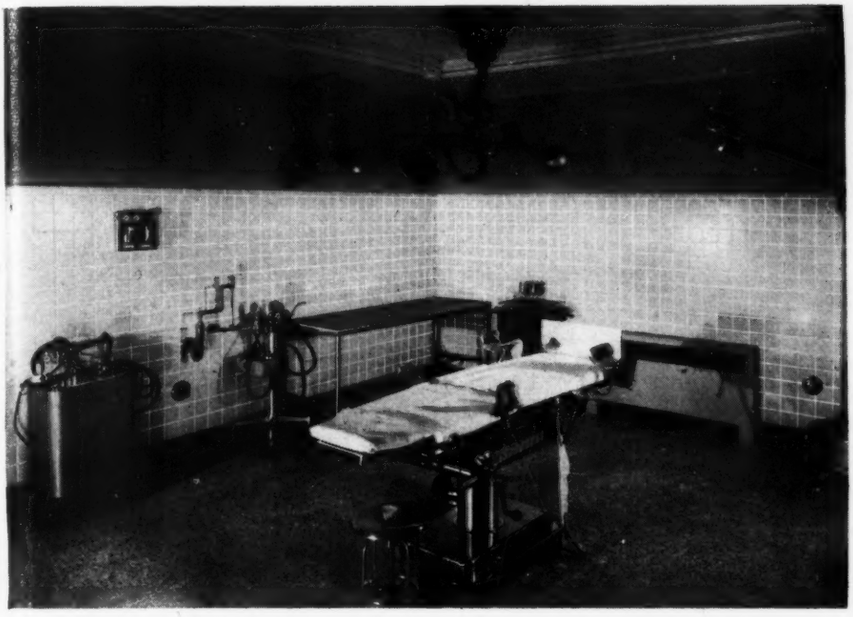
Write for a copy. A free 48-page color booklet "Radiant Panel Heating with Steel Pipe"

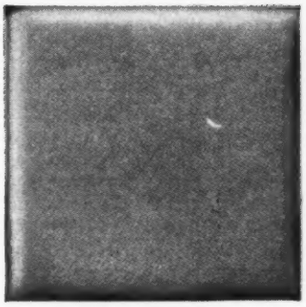
Steel Pipe is First Choice

COMMITTEE ON STEEL PIPE RESEARCH
AMERICAN IRON AND STEEL INSTITUTE
350 Fifth Avenue, New York 1, N.Y.

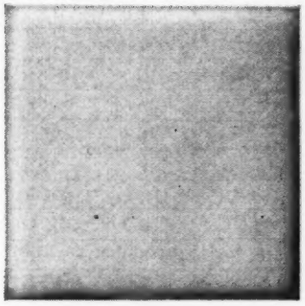
softly-shaded and functionally correct . . .

the new, beautiful *Suntile* colors increase the efficiency of any HOSPITAL INTERIOR!





Sea Green 511



Light Sea Green 513

Suntile SEA GREEN, LIGHT SEA GREEN

Recommended for hospital surgery

Shown above are two tones of Suntile Sea Green—an original and modern color designed by Suntile with the aid of Faber Birren, nationally known color authority. The soft tone Sea Green is recommended for surgeries and operating rooms; the bright tone Light Sea Green for other service areas. Both of these are carefully balanced green tints with a special satin finish. The tint is complementary to the color of human tissue and complexion—and will aid vision and reduce ocular fatigue for the surgeon. Both of these Suntile backgrounds present a dignified appearance, are visually restful and physically durable. These are only two of a complete Suntile line of 12 functional colors, adaptable to all parts of a hospital.

you get the right color plus the permanence of real clay TILE!

Can color help hospital interiors fulfill their functions *better?*

Color authorities say "yes."

There's a *right* color—a most suitable, most beneficial color—for surgeries, wardrooms, corridors, and cafeterias . . .

The *right* color can relieve eye strain of doctors—impart visual and emotional benefits—provide a restful and cheerful environment for both patients and staff.

Suntile's beautiful new line of softly shaded colors has been scientifically developed to *fit the function of interiors*—not only in hospitals but in schools, institutions, commercial and industrial buildings.

This "color-fitted-to-the-function feature" gives you another reason for selecting color-balanced Suntile for walls and floors. Other well-known reasons for choosing this *real* clay tile are: permanence, ability to withstand heavy use, sanitation, ease of cleaning, low maintenance!

Write Dept. AR-1 for our new color booklet "Suntile Functional Color Recommendations." See your local Authorized Suntile Dealer. The Cambridge Tile Mfg. Co., P.O. Box 71, Cincinnati 15, Ohio.

WEST COAST OFFICES

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San Francisco 10, California

The Cambridge Tile Mfg. Co.
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Los Angeles 19, California



SUNTILE OFFERS YOU BOTH • BETTER TILE • BETTER INSTALLATION

CONSTRUCTION COST INDEXES

Labor and Materials

United States average 1926–1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1925	121.5	122.8	111.4	113.3	110.3
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1940	126.3	125.1	132.2	135.1	131.4
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.4	240.0
1950	256.2	254.5	249.5	251.5	248.0
Aug. 1951	272.3	269.8	264.5	266.3	263.2
Sept. 1951	273.7	271.6	264.8	266.5	263.6
Oct. 1951	274.4	272.5	264.9	266.6	263.8
	% increase over 1939				
Oct. 1951	122.2	122.6	102.7	99.9	102.8

ATLANTA

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1925	86.4	85.0	88.6	92.5	83.4
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1940	91.0	89.0	96.9	98.5	97.5
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
Aug. 1951	212.6	214.3	204.9	203.7	206.8
Sept. 1951	213.0	214.8	205.0	203.7	206.9
Oct. 1951	214.6	216.4	206.6	204.7	208.3
	% increase over 1939				
Oct. 1951	148.7	160.4	117.2	110.2	120.0

ST. LOUIS

1925	118.6	118.4	116.3	118.1	114.4
1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1940	112.6	110.1	119.3	120.3	119.4
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
Aug. 1951	251.3	246.9	240.2	243.2	240.6
Sept. 1951	253.5	249.5	241.4	243.8	241.4
Oct. 1951	255.6	252.4	241.2	243.9	241.6
	% increase over 1939				
Oct. 1951	131.9	135.9	103.2	103.6	103.0

SAN FRANCISCO

1925	91.0	86.5	99.5	102.1	98.0
1930	90.8	86.8	100.4	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1940	106.4	101.2	116.3	120.1	115.5
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
Aug. 1951	245.7	240.2	240.3	244.1	244.2
Sept. 1951	248.1	243.0	242.0	244.9	245.4
Oct. 1951	248.5	243.5	242.1	244.9	245.5
	% increase over 1939				
Oct. 1951	135.3	145.2	106.2	100.9	110.7

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear regularly on this page.

another **HOMASOTE FIRST**— *designed to reduce the cost of building*

Announcing the NEW!

Weatherproof HOMASOTE UNDERLAYMENT

Specifically designed for use under WALL-TO-WALL CARPETING and 1/8" LINOLEUM



Photo by G. Barrows—Executive Office for INTERIORS designed by Knoll Associates, Inc.

• Greater resilience and longer life for the floor covering—a substantial saving in cost—these are the gains you get with this revolutionary new product.

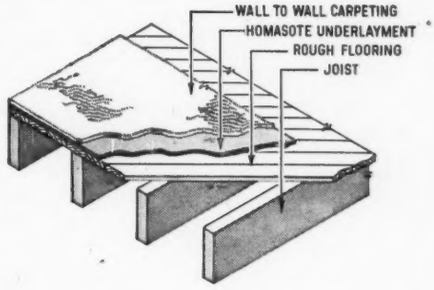
Homasote Underlayment – integrally waterproofed throughout—is nailed directly to the rough flooring. The pieces—normally 4′ x 6′—are simply butted together; they require no joining.

When used with 1/8" linoleum, the linoleum is cemented directly to the Underlayment; no felt is required. This saves the cost of both the felt and one cementing operation. When used with wall-to-wall carpeting, no pad is needed under the carpeting, saving both material and labor.

Along with a major improvement in floor-covering method, you save 1/3 to 1/2 the cost of the materials usually used for 5/8" underlayment. (The 5/8" Underlayment brings the floor covering up to the normal height for 25/32" hardwood flooring.)

For combination awning and storm shutters—Florida tested—here are the ideal thickness and strength in a low cost material that is *completely weatherproof.* In Big Sheets—up to 8′ x 14′—you have the perfect answer for protecting store windows and fronts.

Let us send you samples and full details. *Please give us the name of your lumber dealer!*



Nova Sales Co.—a wholly owned Homasote subsidiary—distributes the Nova Roller Door, Nova-I. P. C Waterproofing Products, Nova Sidewalls and the Nova Loc-Nail. *Write for literature.*

HOMASOTE COMPANY
TRENTON 3, N. J.

SEE OUR CATALOG IN SWEET'S

—makers of the oldest and strongest insulating-building board on the market

Homasote Company, Trenton 3, N. J. Dept. 75

Send samples and full details on Homasote Underlayment.

NAME.....

ADDRESS.....

CITY & ZONE.....STATE.....

My lumber dealer is.....


COMPLETELY
REVISED!
Architects'
and
Engineers'
DATA BOOK
A.I.A. FILE NO. 31-A (NN)

Here's helpful data

that simplifies electrical planning

for Architects and Engineers

The completely new edition of the famous Westinghouse Data Book is ready now! Prepared especially for Architects and Engineers, it contains valuable planning help on everything electrical. A truly complete electrical reference source.

It aids in selecting and specifying . . . quickly and conveniently. It is accurate, up to date. The data will enable you to apply electrical equipment to the very best advantage. Here all in one place is the latest factual information on every electrical product made by Westinghouse for the Construction Industry. It is your authoritative guide on electrical application. The presentation is simple and slanted to your needs and methods.

Distribution is being limited to those directly concerned with electrical planning. If you need the material and have not already received a copy, please contact your Westinghouse representative. J-94893

YOU CAN BE SURE... IF IT'S Westinghouse

EQUIPMENT FOR THE CONSTRUCTION INDUSTRY



Samuel Chamberlain Photos

Beauport from the air. Lower terrace, center, commands sweep of Gloucester Harbor. Steps of landing lead under water to the habitat of lobsters

REQUIRED READING

BEAUPORT

Beauport at Gloucester. Pictures by Samuel Chamberlain; text by Paul Hollister. Hastings House (41 E. 50th St., New York, N. Y.), 1951. 7 by 9¼ in. 88 pp., illus. $3.75.

REVIEWED BY KENNETH REID

Beauport is a house — a most remarkable house, put together by a remarkable man, who made its building almost literally a life's career. It started modestly enough as a bachelor's three-room cottage on the rocky shore of Cape Ann at Eastern Point and finally became a forty-room mansion, housing what must be one of the finest collections of early American interiors in existence. It is now owned by the Society for the Preservation of New England Antiquities.

Henry Sleeper, the creator and lifetime owner of Beauport, was, as a young man, possessed of a dream. His dream was to make a house "in which each room could recapture some of the spirit of a specific mood or phase or 'period' of our American life from the time of Plymouth down through the Revolution and the early Republic." Granting the validity of his objective, he attained something not far short of perfection. For the house he made was no dry-as-dust, pedantic restoration of existing precedent, meticulously copied from measured drawings. On the contrary, it had life and warmth and richness and humanity because it was the expression of the spirit of an individual man. He was an eclectic, as were most of his contemporaries, and was thus true to his times. The house, as shown by Chamberlain's admirable photographs and described by Mr. Hollister's playful text, is evidence enough of Sleeper's love for fine form, color, and texture and of his understanding of their significance in environment.

We do not design that way today; we like to think of ourselves as more creative. In our "creations," however, we often fail to achieve the emotional satisfactions we set out to produce in the minds and hearts of our clients. Some day we will reach our goal, let there be no doubt of it. In struggling towards it we can be helped rather than hindered by unbiased contemplation of such a thing as Beauport, which does contain qualities that are sorely needed in much contemporary work.

The pity of it is that Beauport will be seized upon by many as a justification for another wave of "period" interiors, and the antique ensemble will find renewed public favor. Ah, well, we'll just have to give them something they'll like better! (***Reviews continued on page 46***)

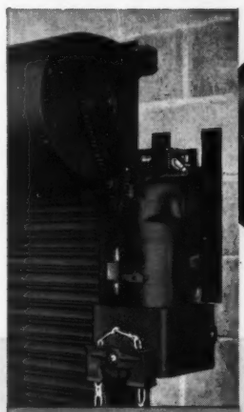




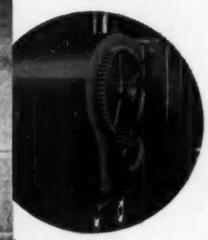
Far left: the Pembroke Room. "Probably nowhere on earth will you find a more sympathetic reconstruction of the heart of the pioneer home, family, community than here in the room which Sleeper reassembled from the oak-and-pine house of his forbears at Pembroke"

Near left: the Mariner's Room—a pine attic-room—bespeaks the salty simplicity of an early New England seafaring existence

Rolling Steel DOORS



MAHON STANDARD POWER OPERATOR 920-P



MAHON CHAIN-GEAR OPERATOR

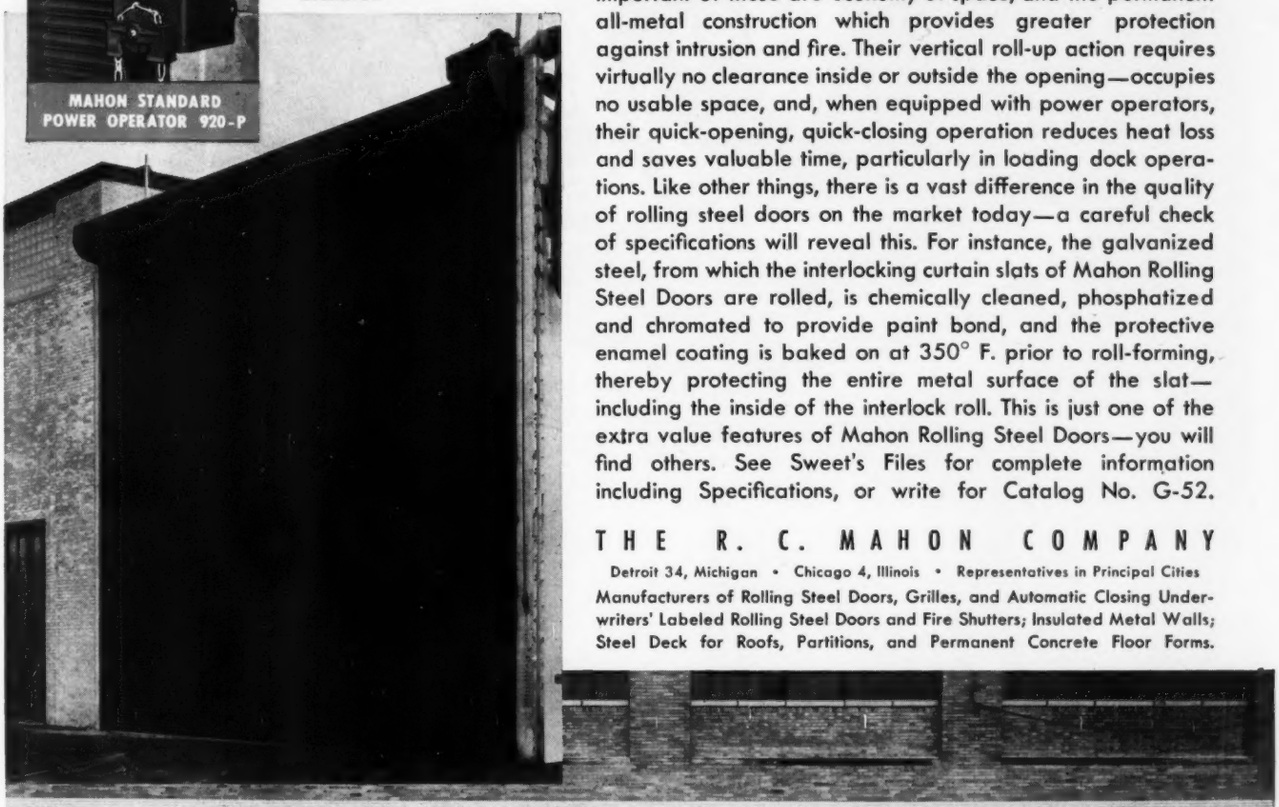
Manually, Mechanically, or Power Operated

The advantages of a rolling steel door are manifold . . . most important of these are economy of space, and the permanent all-metal construction which provides greater protection against intrusion and fire. Their vertical roll-up action requires virtually no clearance inside or outside the opening—occupies no usable space, and, when equipped with power operators, their quick-opening, quick-closing operation reduces heat loss and saves valuable time, particularly in loading dock operations. Like other things, there is a vast difference in the quality of rolling steel doors on the market today—a careful check of specifications will reveal this. For instance, the galvanized steel, from which the interlocking curtain slats of Mahon Rolling Steel Doors are rolled, is chemically cleaned, phosphatized and chromated to provide paint bond, and the protective enamel coating is baked on at 350° F. prior to roll-forming, thereby protecting the entire metal surface of the slat—including the inside of the interlock roll. This is just one of the extra value features of Mahon Rolling Steel Doors—you will find others. See Sweet's Files for complete information including Specifications, or write for Catalog No. G-52.

THE R. C. MAHON COMPANY

Detroit 34, Michigan • Chicago 4, Illinois • Representatives in Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Doors and Fire Shutters; Insulated Metal Walls; Steel Deck for Roofs, Partitions, and Permanent Concrete Floor Forms.



ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Top Illustration: One of Two Mahon Power Operated Rolling Steel Doors 30'-0" x 30'-0" Installed in a General Electric Test Cell. Bottom: Two Mahon Power Operated Rolling Steel Doors 37'-0" x 14'-9" and 33'-0" x 14'-9" Installed in Openings of an Enclosed Loading Dock.

MAHON



. . . and for the temperature control, we'll insist on Honeywell!

You'd think cartoonist Tobey's famous couple would be discussing something else in a setting like this!

However, the *one* thing the gentleman above wants to make sure of, in planning his new home, is *comfort!* And he knows that the best way to get it is to ask his architect or heating engineer to specify Honeywell temperature controls.

If *you* have a control problem, Honeywell can help provide the proper thermal environment for any client —anywhere—in any kind of structure.

A large staff of well informed control engineers—in 91 different Honeywell offices across the nation—are experienced in doing just that. Or—there's a lot of literature that's yours for the asking—on the automatic control of heating, ventilating and air conditioning.

So, why not *talk to Honeywell?* Why not *write to Honeywell* about *your* control problem? And why not do it *now?*

H HONEYWELL

For help with any control problem, talk to Honeywell

Specify Honeywell Electronic Air Conditioning Control!

Give your clients the ultimate in comfort— and increased efficiency, lower maintenance costs

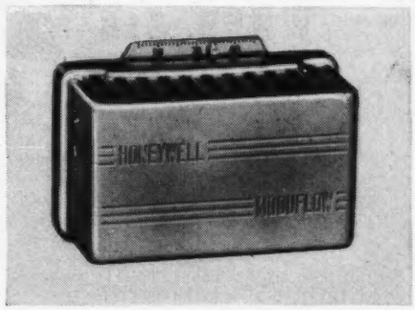
Here's an entirely new type of air conditioning control! Its many new features make it *easy* to achieve results never before possible.

You see, this new Honeywell system electronically "feels" temperature changes as they occur and then gives *fast,* accurate modulating control over heating and air conditioning dampers or valves.

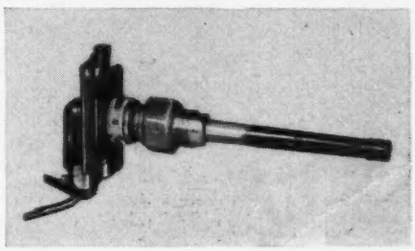
And because it is *electronic,* it's 100 times more sensitive than conventional systems! This means faster reaction to changes in load; no temperature "overshoot"; no waste of either warm or cool air.

Honeywell electronic thermostats are greatly simplified for lasting service with little or no maintenance costs, for they have no moving parts to wear or get out of adjustment.

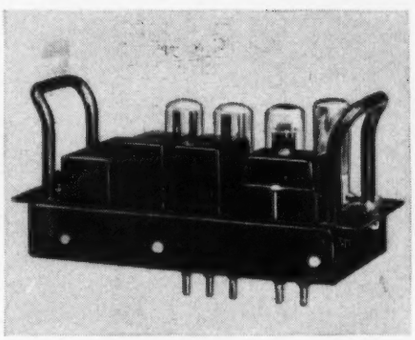
So be sure to specify the new Honeywell electronic air conditioning control to give your client the ultimate in comfort. At the same time you'll be giving him a system that helps pay for itself through increased efficiency and lower maintenance costs.



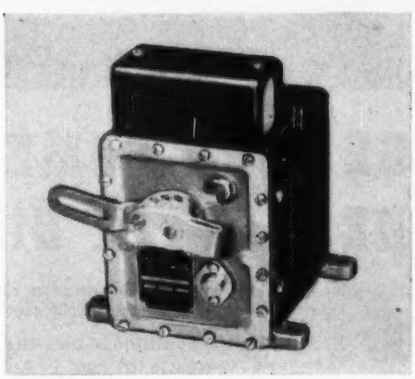
Space Thermostat. No moving parts to wear out or get out of adjustment.



Duct and Immersion Thermostat. Measures temperatures accurately from -50 degrees to 300 degrees F.



Electronic Relay. Here's the famous "brain" that measures thermostat signals, operates the valves and dampers.



Modulating Motor. Slightest temperature fluctuation causes motor to change valves or dampers.

MINNEAPOLIS **Honeywell** H HONEYWELL

First in Controls

...and for help with the temperature control, we'll talk to (your firm name)

FREE – personalized cartoon. For your 8½" x 9" reproduction of this Tobey cartoon (incorporating the name of your firm), fill out and mail coupon today.



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Gentlemen:

- ☐ Please send me your booklet "New Horizons of Comfort with Honeywell Electronic Air Conditioning Control."
- ☐ Please send me a free personalized reproduction of the Tobey cartoon.

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Firm Name_____

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City_____ Zone____ State_____



WHEN AIR IS BAD



REMOVE FUMES, SMOKE AND HEAT WITH BURT MONOVENT

The Burt Monovent Continuous Ridge Ventilator is particularly efficient in heavy industry — for steel mills, foundries, forge shops, etc.

Installed as a continuous unit the entire length of the building, Burt Monovent converts the roof line to a giant valve that exhausts bad air rapidly from the whole structure. Standard production sizes from 4" to 96" widths handle almost any application.

The Monovent is remarkably efficient. It can be installed on any type roof. And, its simplicity and heavy construction assure long, trouble-free life with almost no maintenance. See Sweet's for further details or write for Bulletin S.P.V.6.

FAN & GRAVITY VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company

48 E. South Street • Akron 11, Ohio

REQUIRED READING

(Reviews continued from page 42)

LATROBE'S THOUGHTS ON EARLY NEW ORLEANS

Impressions Respecting New Orleans — Diary & Sketches 1818–1820. By Benjamin Henry Latrobe. Edited with an introduction and notes by Samuel Wilson, Jr. Columbia University Press (2960 Broadway, New York 27, N. Y.), 1951. 8⅛ by 11 in. xxiv + 196 pp., illus. $8.75.

Mr. Wilson has brought together in a handsomely presented volume the existing diaries of Latrobe covering the last years of his life, which were spent in New Orleans. Although parts of these journals were published in 1905, it is the first time the original manuscripts have been presented in their entirety or with any number of the neat sketches drawn by Latrobe during this period.

The vivid descriptions contained in the diaries present precise and revealing pictures both of early New Orleans and of Latrobe himself. His comments run the gamut from philosophical and moral questions, the state of society, and the style of buildings to Negro music, flora and fauna. The value of the book probably lies more in these varied observations and thoughts of the man referred to by many as the father of the American architectural profession, than to any extensive material on his architectural techniques.

The introduction by Mr. Wilson includes a brief biography of Latrobe's life, and a review of his work in Louisiana. This is frequently spiked with examples of the difficulties and frustrations which pursued Latrobe's career, and which, it would appear, are not new to the profession.

RELIGIOUS ARCHITECTURE

A History of Religious Architecture. By Ernest Short. Third revised edition. W. W. Norton Co. (101 5th Ave., New York, N. Y.), 1951. 7¾ by 5⅝ in., 306 pp., illus. $6.00.

As a comprehensive history of religious building for the general reader, this is a volume which certainly has much to recommend it. At the same time, although it covers the field more than adequately, the book cannot escape from the inevitable characteristic quality of the generalized history, and in its very sweep tends to be at times somewhat cursory. Thus although all the usual high spots are hit, one finds that buildings of such importance as

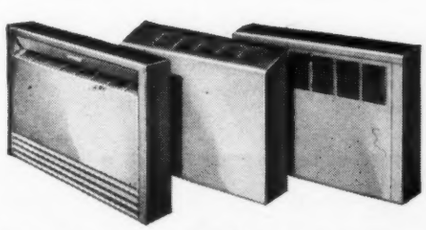
(Reviews continued on page 50)



Springfield, Missouri, hospital chooses Modine

At St. John's Hospital, nearly 1000 Modine Convectors provide patients and staff with healthful, floor-to-ceiling heat. Architects: Maguolo & Quick, St. Louis. Engineer: Harry F. Wilson, St. Louis. General Contractor: McGough Bros., St. Paul, Minn. Heating Contractor: C. Wallace Plumbing Company, Inc., Dallas, Texas.

America's finest buildings use America's finest convectors

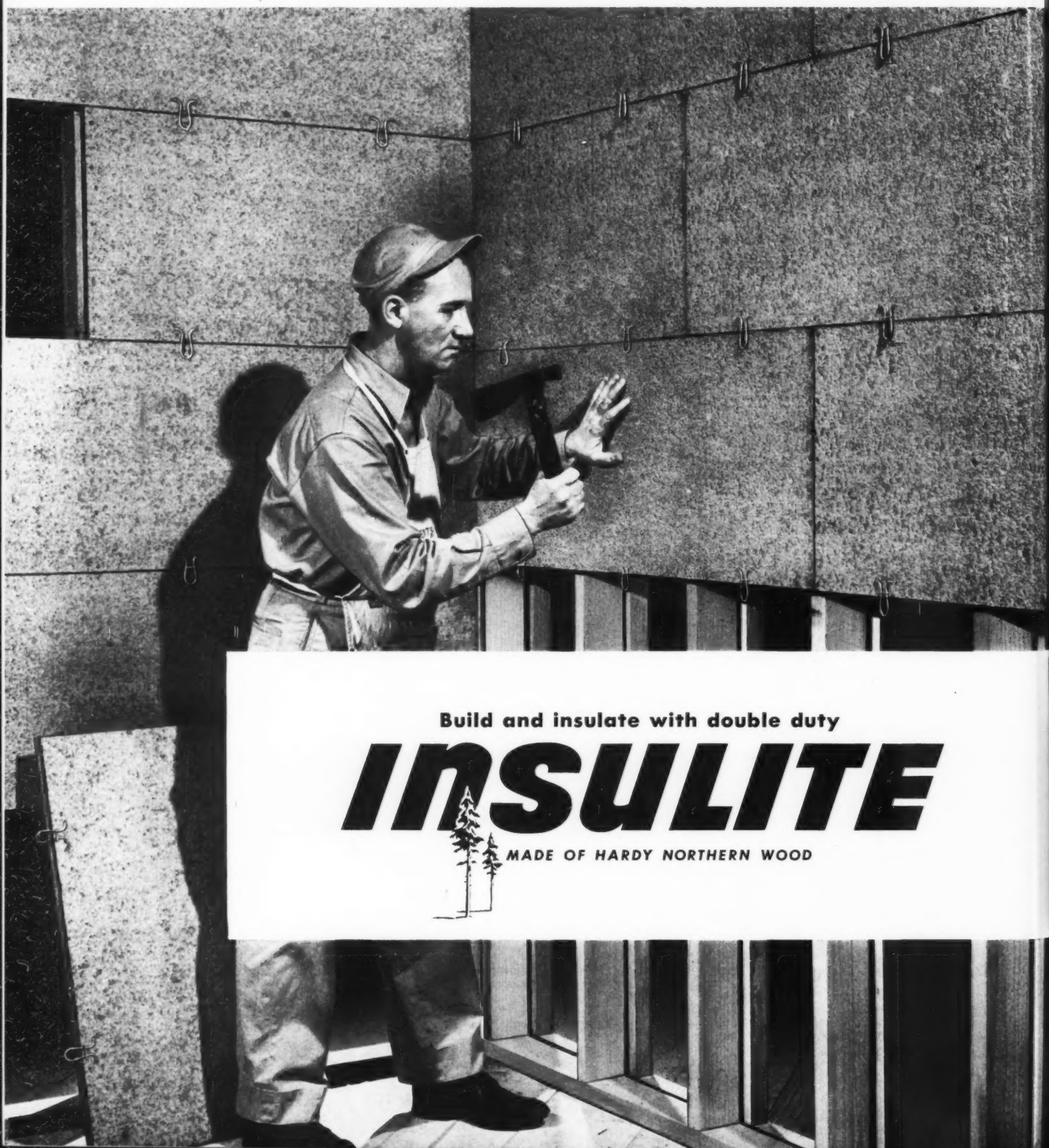


Choose from three enclosure types in Standard and heavy-duty Institutional models for free-standing, recessed or wall-hung installation

FOR today's hospitals, superior heating performance must be teamed with subtle styling and long-life construction. On all counts, Modine Convectors meet exacting professional standards. That's why more and more Modine Convectors are being specified by leading architects and engineers. For full information on heating at its finest, call your Modine representative. You'll find him listed in your classified phone book. Or write Modine Mfg. Co., 1510 DeKoven Ave., Racine, Wis.

Modine CONVECTORS

Architect shushes in new apartments with



Build and insulate with double duty

INSULITE

MADE OF HARDY NORTHERN WOOD

"neighbor-noise" split-plate wall and Insulite Lok-Joint Lath



Sibley Manor, St. Paul, Minnesota
Architect: *Tecnico*
General Contractors: *Sauers Construction Company and Johnson, Drake & Piper, Inc.*

Problem. How to reduce noise transmission in party walls and still keep costs in line.

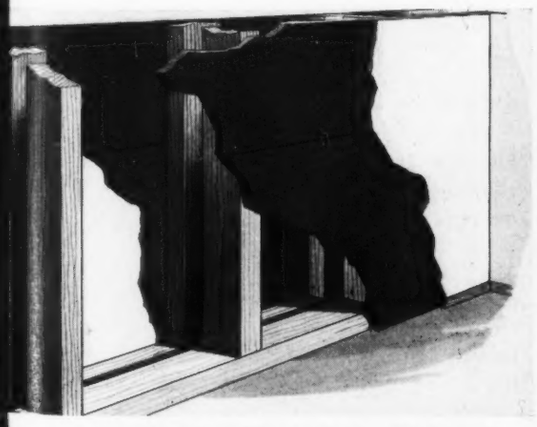
Solution. A low-cost split-plate wall lathed with sound-deadening INSULITE LOK-JOINT LATH!

Does it work? Sauers Construction Company, co-builder of St. Paul's new Sibley Manor says *yes!* So far, Sauers Construction Company has used this novel wall on three projects and claim it is superior to the staggered-stud wall with blanket wool insulation! And far less costly . . . *4¢ per square foot less!*

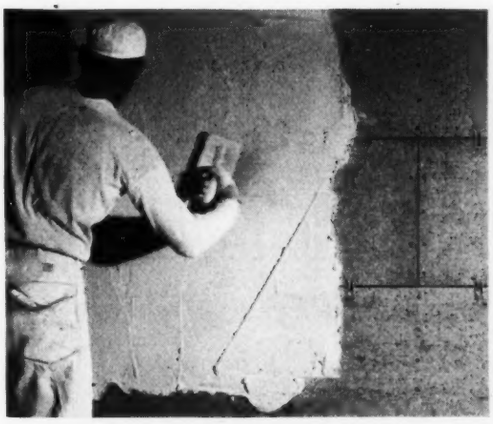
One reason: LOK-JOINT LATH not only deadens sound, but provides an ideal plaster base plus effective insulation in one operation.

FROM THE
INSULITE IDEA FILE

For complete facts on INSULITE LOK-JOINT LATH, see Sweet's File. For samples of LOK-JOINT LATH and other INSULITE products, write Insulite Division, Minnesota and Ontario Paper Company, Minneapolis 2, Minnesota.



Noise stops here. The standard wall is framed with 2 x 4's on a 2″ x 4″ plate. Secondary wall is framed with 2 x 4's turned flatwise on a 2″ x 2″ plate with a half-inch space between plates. Both walls are lathed with sound-deadening INSULITE LOK-JOINT LATH.



Bonding Power of plaster to LOK-JOINT LATH is more than *twice* that required by the commercial standard for structural fiber board. Exclusive rigid metal "Loks" stop annoying "yield-and snap-back" at joints. Large units lay up quickly; save time.



Insulite Bildrite Sheathing on exterior walls saved Sauers Construction Company hundreds of dollars on every Sibley Manor Unit because no corner bracing was required. BILDRITE has twice the bracing strength and insulation value of horizontally applied wood, yet applied cost is far less!

INSULITE, LOK-JOINT LATH AND BILDRITE ARE T.M. REG. U.S. PAT. OFF.

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Last year, we asked 488 drawing pencil users—a representative cross-section—to test 3 MICROTOMICs (of any degree of their choice) against 3 other drawing pencils of the same degree.

459 (94% of those who made the test) found MICROTOMIC grading definitely "more uniform" by unbiased comparison.

In fact, about a month later, 185 said they were already using MICROTOMICs . . and another 199 said their next drawing pencil order would be for MICROTOMICs.

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37 Greenpoint Avenue, Brooklyn 22, N.Y.

I want to test MICROTOMIC uniformity vs. my present pencils. Send... degree MICROTOMICs please.

NAME_____
FIRM_____
STREET_____
CITY_____
DEALER'S NAME_____

REQUIRED READING

(Reviews continued from page 46)

St. Denis and Cluny are either brushed off with a brief note or not mentioned at all. Still, considering its scope, the book is remarkably inclusive. An American reader is particularly aware, however, of some notable omissions such as the New England Meeting House and Richardson's Trinity Church.

The book's ending is somewhat disappointing, too, in view of Mr. Short's avowed purpose. This — in his own words — is "to show how the chief manifestations of religious art are connected with outstanding social, political and geographical circumstances; to gauge the emotions and thoughts embodied in various types of buildings, and the actions and reactions which created the different national styles; always striving to penetrate through the artistic production to the intellectual and emotional circumstances which shaped and vitalized it." In terms of such a broadly human and intelligent intention, it seems a little strange that the author should devote his attentions in discussing the 20th century to such contemporaneous but non-contemporary structures as the Cathedral of St. John the Divine and Liverpool Cathedral; buildings which, whatever else they may be, can hardly be said to be a direct or honest expression of our time and place in the vital manner in which Mr. Short would like us to think of religious architecture — as an index of a culture's essential spirit.

ART CRITICISM

The Works of Man. By Lisle March Phillipps. The Philosophical Library, Inc. (15 E. 40th St., New York, N. Y.), 1951. 5½ by 8½ in. 330 pp., illus. $4.75.

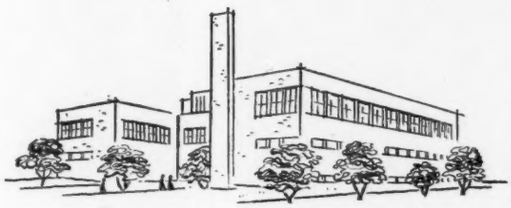
This is the second edition of a well-known work on art criticism. The first edition appeared in 1911 and has been out of print for eighteen years.

For those who haven't read the book, Mr. Phillipps' main concern is to discover in art, more particularly in architecture which he considers the most broadly human of all the arts, the distinguishing characteristics of man in each historical epoch.

The author believes that art is most significant when it finds expression in definite styles. Art, he says, cannot be inspired only by individual caprice. Another of his theses is that art and

(Reviews continued on page 302)

SELECTING ACOUSTICAL MATERIALS





A RECREATION CENTER: Bronx, N. Y.

Architects: Brown, Lawford, & Forbes

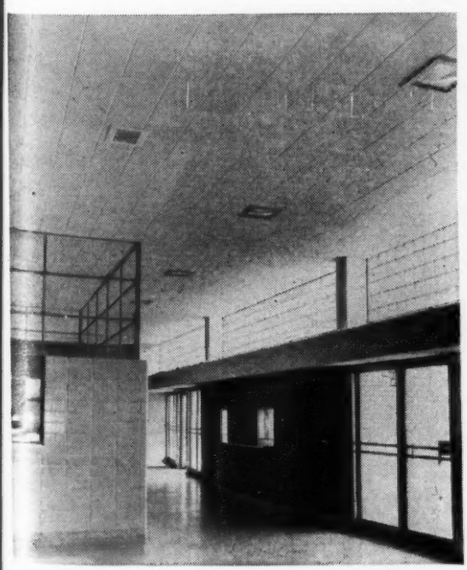
General Contractor: Rubin Construction Co.

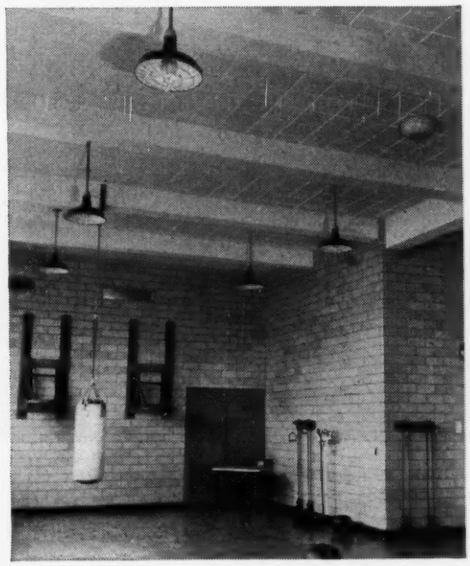
Acoustical Contractors: Hannam & Schede, Inc.

Other factors besides acoustical efficiency dictated the choice of acoustical materials for the swimming pool of St. Mary's Recreation Center. This area required a material that could withstand extreme moisture conditions, help to protect lighting and ventilating equipment above the ceiling, and bend to fit the ceiling curve.

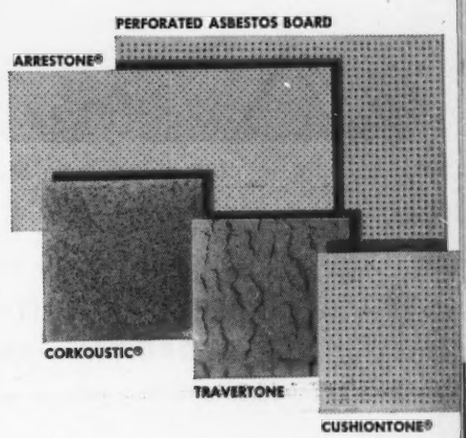
Armstrong's Corkoustic was chosen because it has high natural resistance to moisture. The pure cork composition of Corkoustic gives it a flexibility unusual in acoustical materials, and its textured surface provides both efficient sound absorption and architectural beauty.

The complete line of Armstrong's Acoustical Materials offers you a wide range of special features. Your Armstrong Contractor is ready to give you expert advice without obligation. Write for free booklet, "How to Select an Acoustical Material." Armstrong Cork Company, 2401 Stevens Street, Lancaster, Pennsylvania.

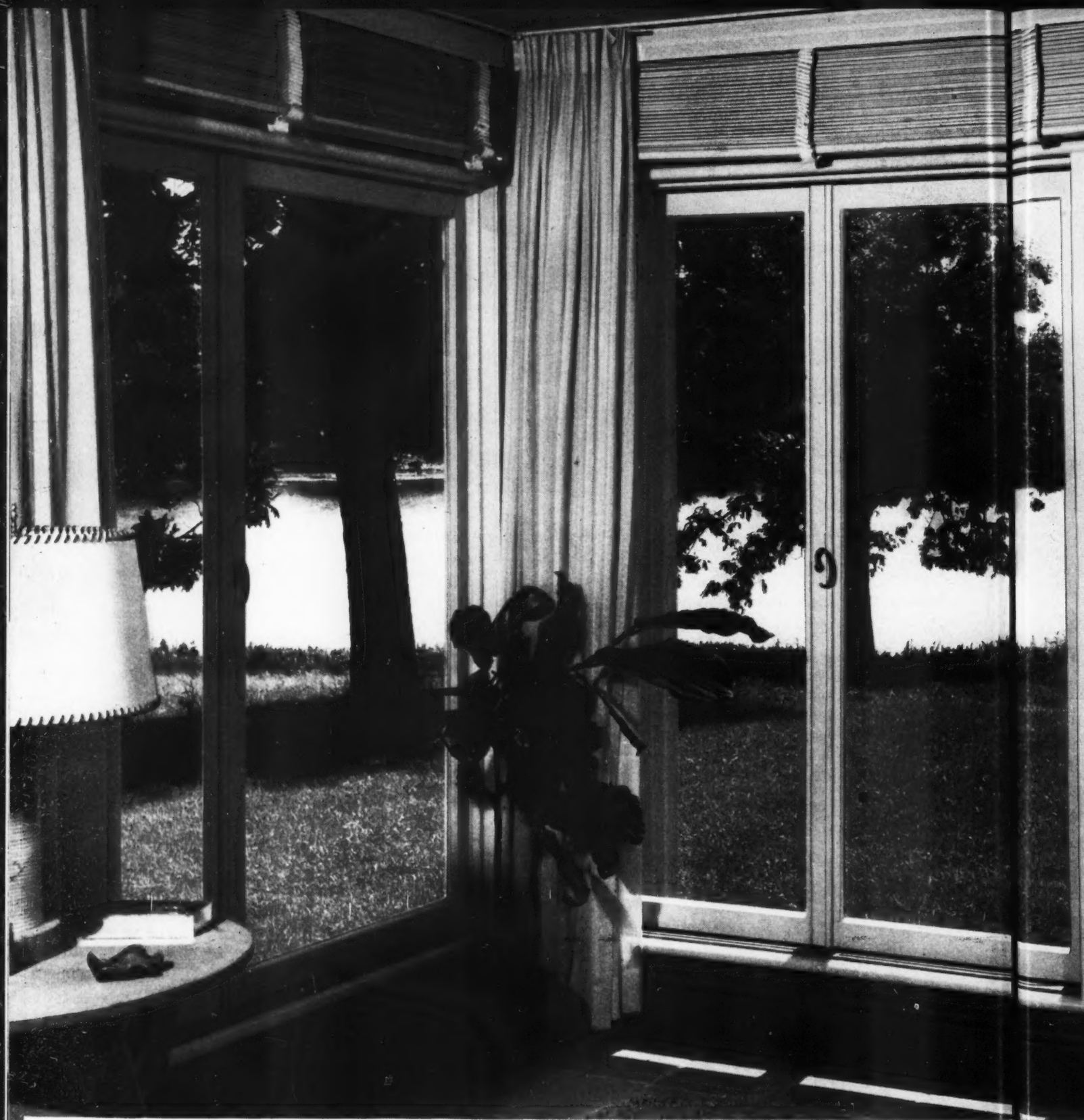




The lobby, gymnasium, and other rooms of St. Mary's are sound conditioned with Armstrong's Cushiontone, a wood fiber acoustical material. It was chosen for its low cost, high sound absorption, and clean, smart appearance. Cushiontone has neatly drilled perforations, and its washable white paint finish is high in light reflection.



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*TRADEMARK OF ANDERSEN CORPORATION

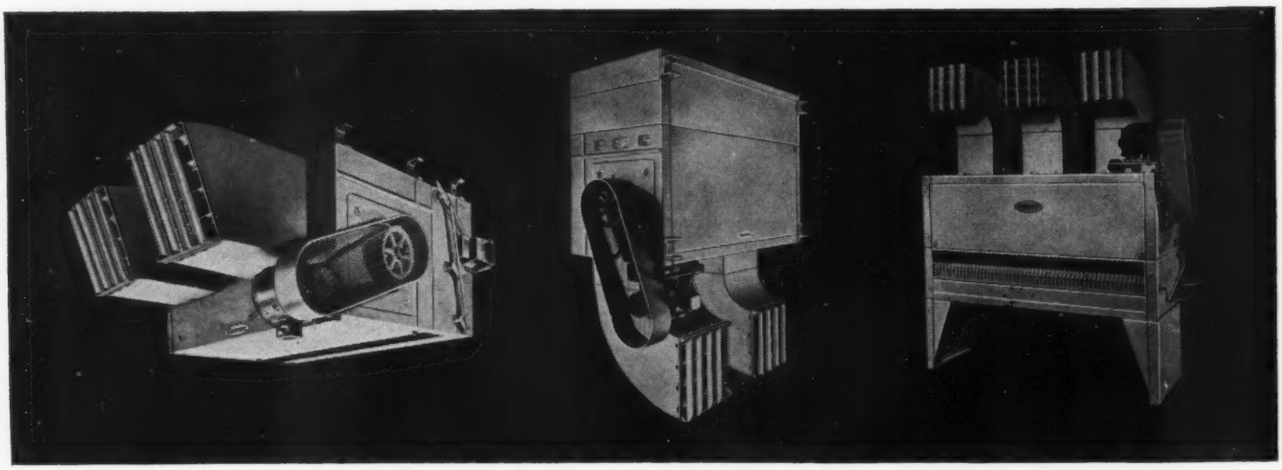
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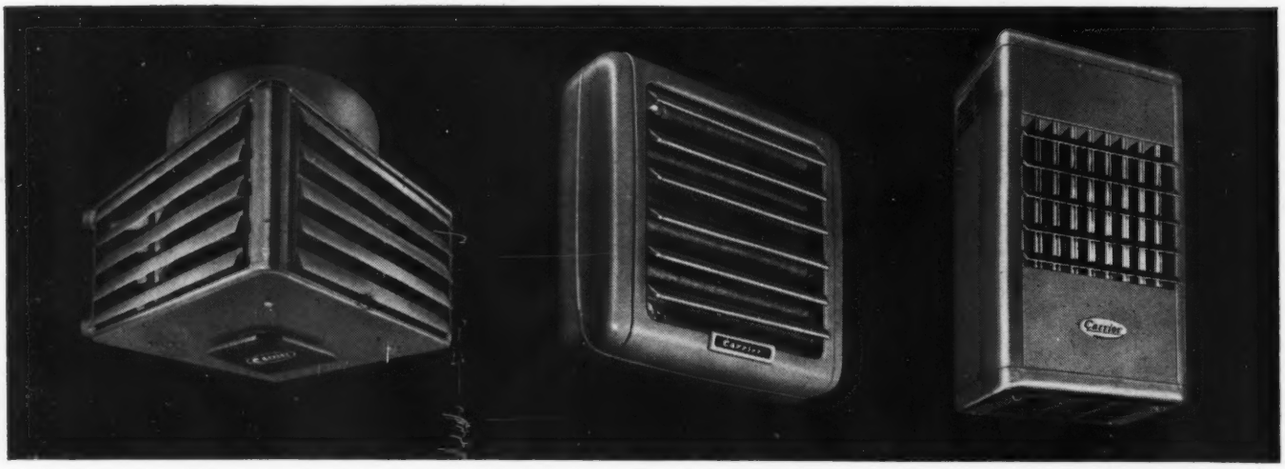
Write for Detail Catalog or Tracing Detail File; or see Sweet's files for specification data. WINDOWALLS *sold by millwork dealers.*

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how an Architect found the

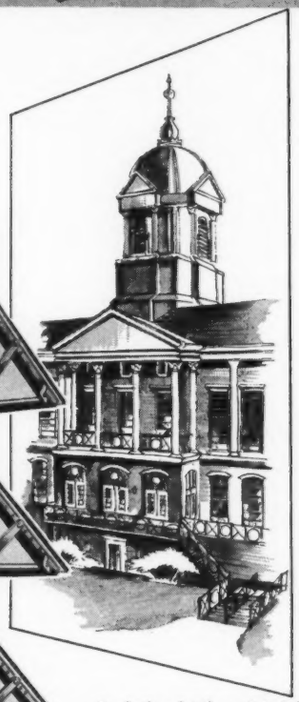
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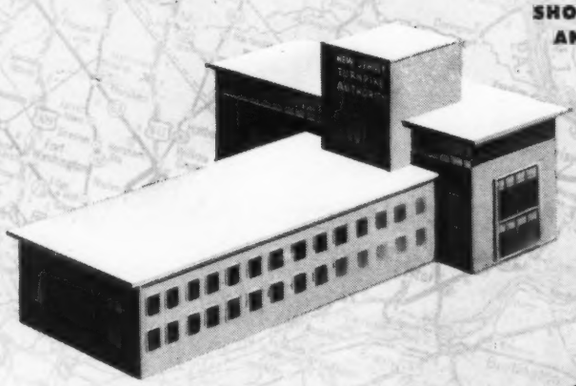
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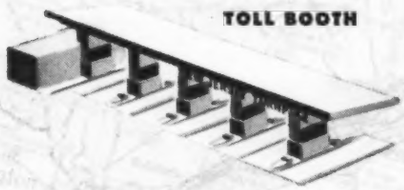
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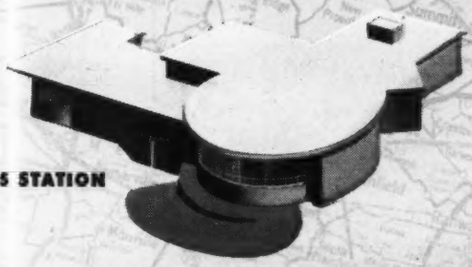


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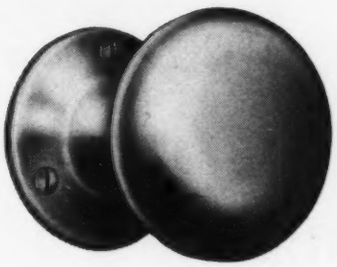
Associate Architects:
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Newark, New Jersey

Contractors:
A. A. LaFountaine & George Arace
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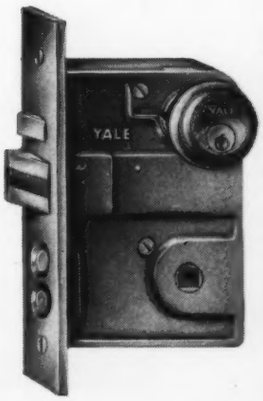


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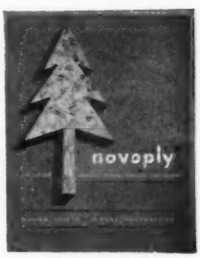
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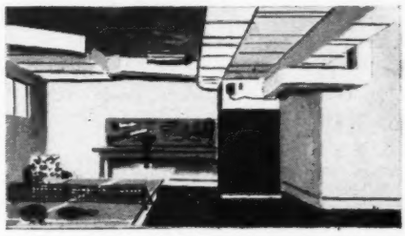
Architectural Service

Attractive Awnings



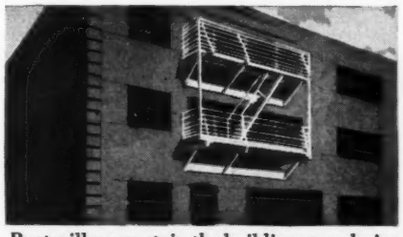
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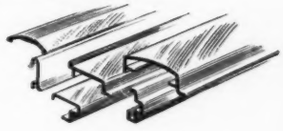
(Advertisement)



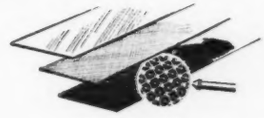
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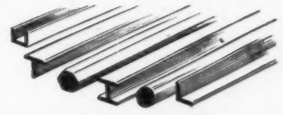
EXTRUDED SHAPES



SHEET



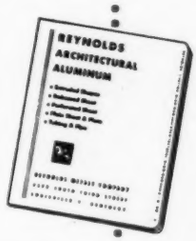
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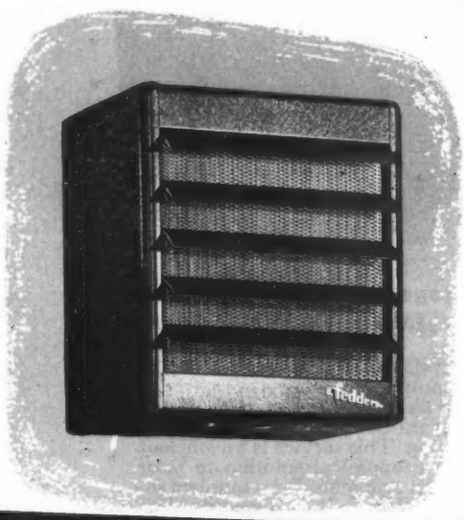
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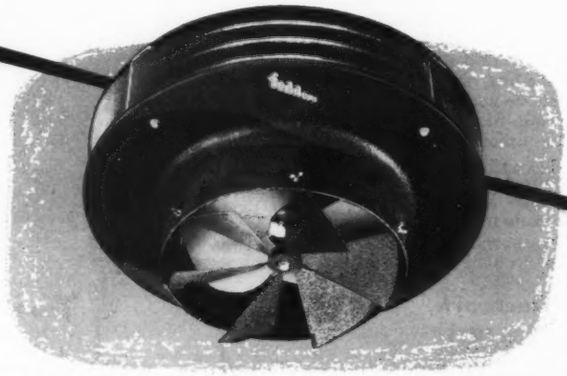
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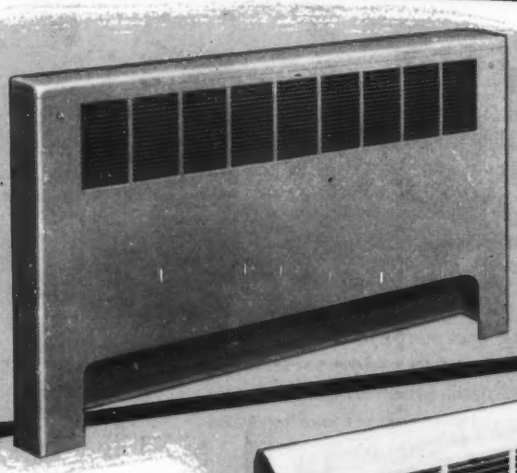
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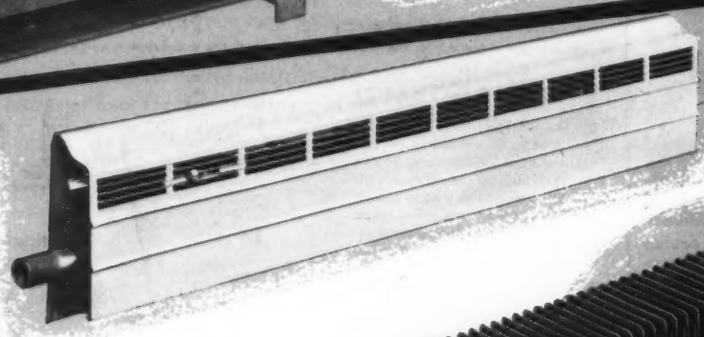


Fedders Series 16 Downblow Unit Heaters are designed for installations involving high ceilings, craneways, frequently opened factory and garage doors.

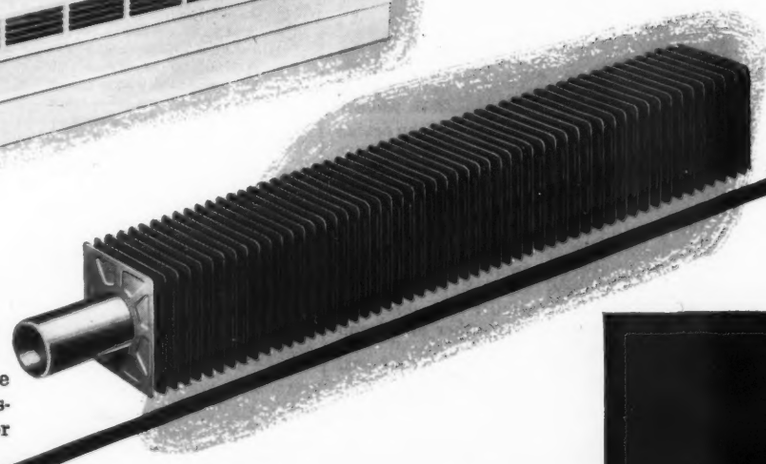
Fedders Series 15 Horizontal Unit Heaters are widely used in factories, stores, service stations.



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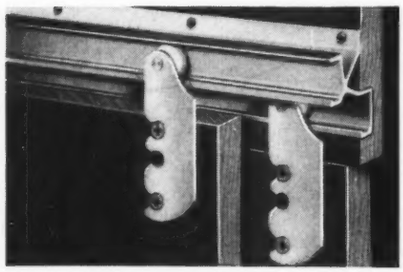
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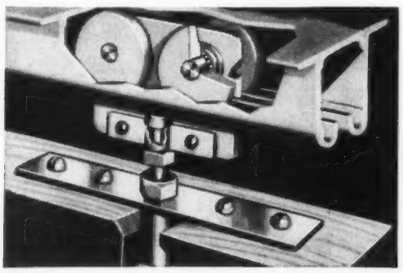
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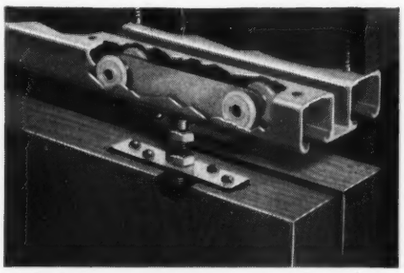
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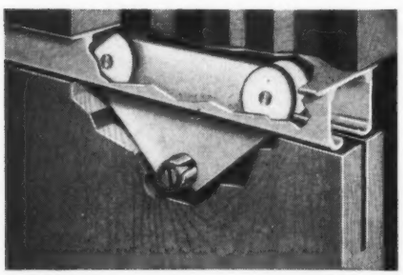
SERIES 250—For by-passing ¾" to 1⅛" doors on cabinets, wardrobes and fixtures. Hanger permits mounting doors flush with cabinet face.



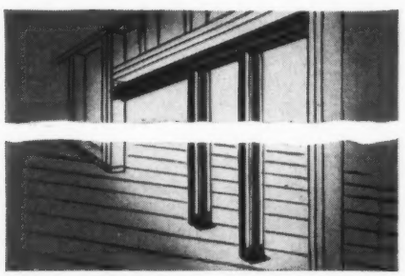
SERIES 400—For heavy closed pocket installations. This is generally considered the finest sliding door hardware obtainable. Allows vertical door adjustment. Ball bearing hangers.



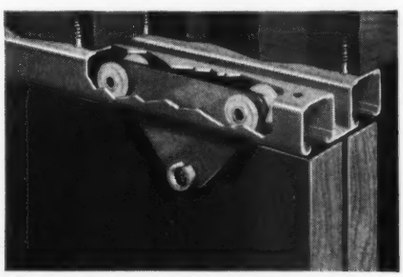
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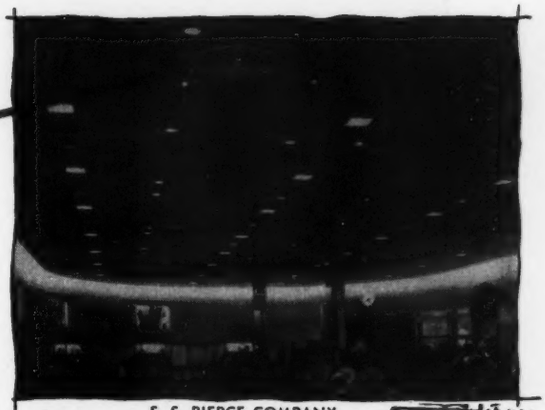
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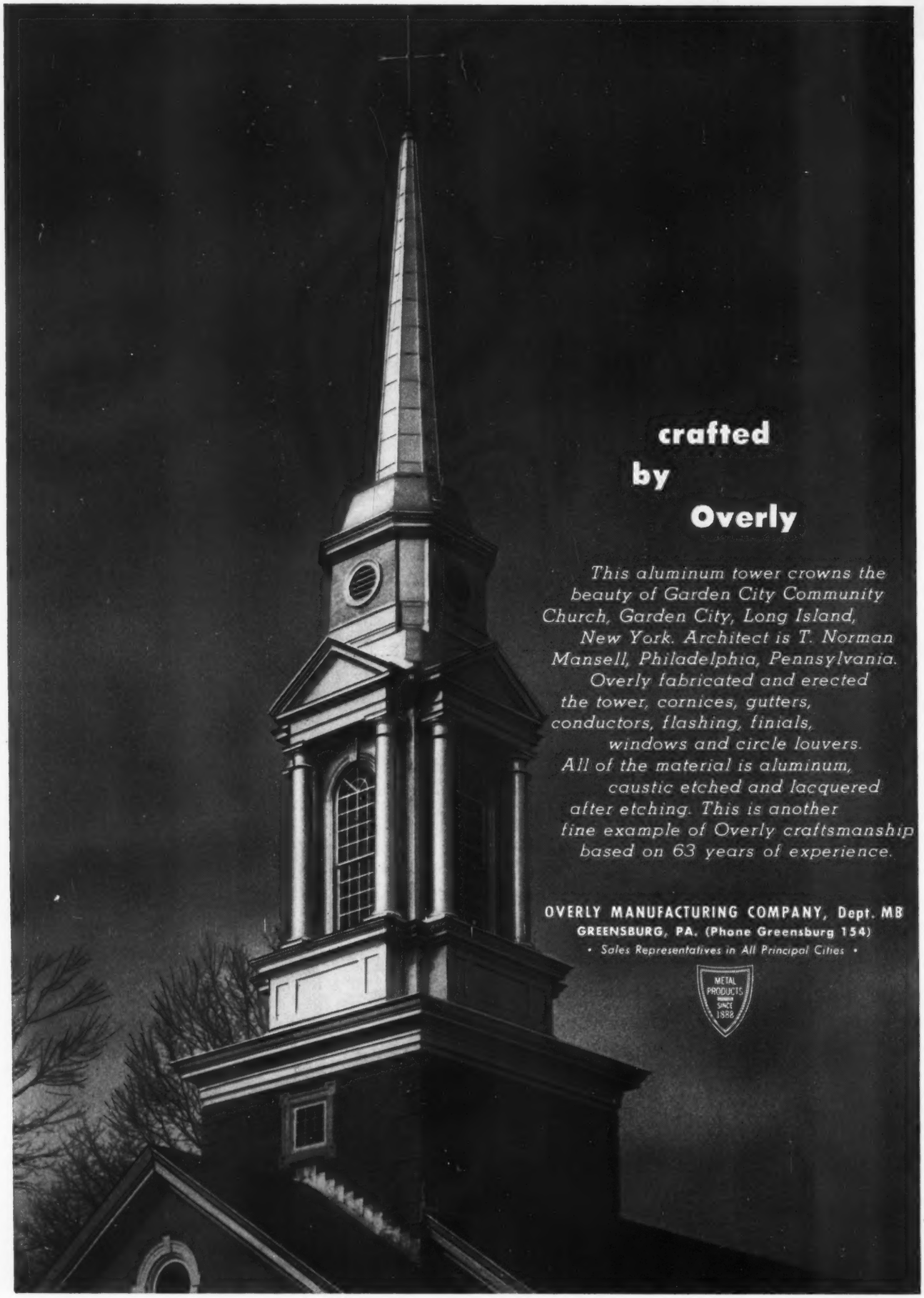
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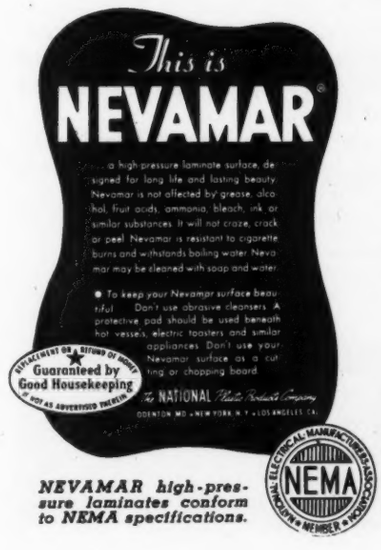
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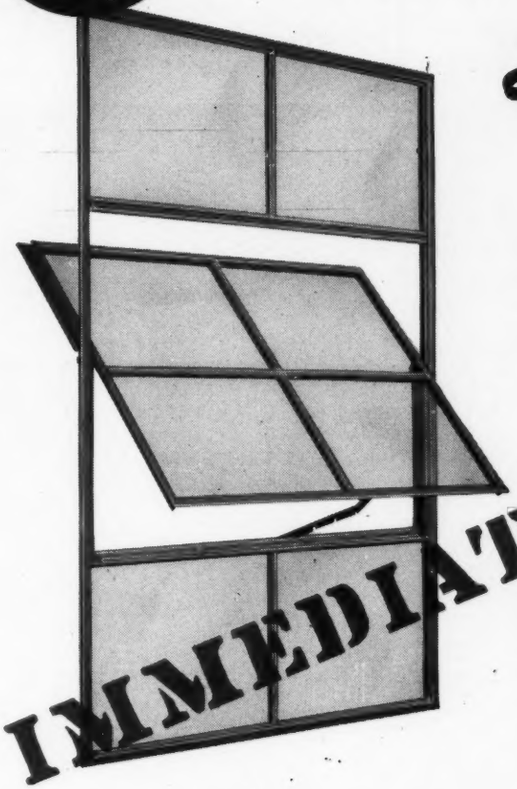
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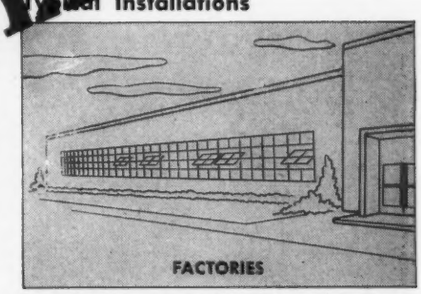


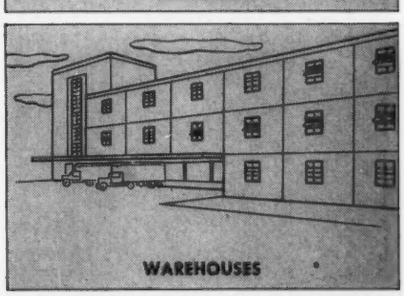
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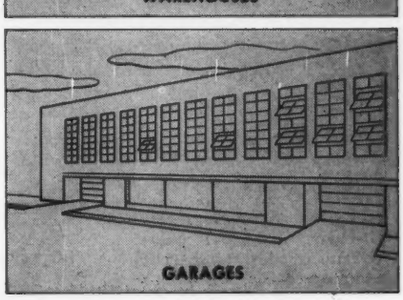
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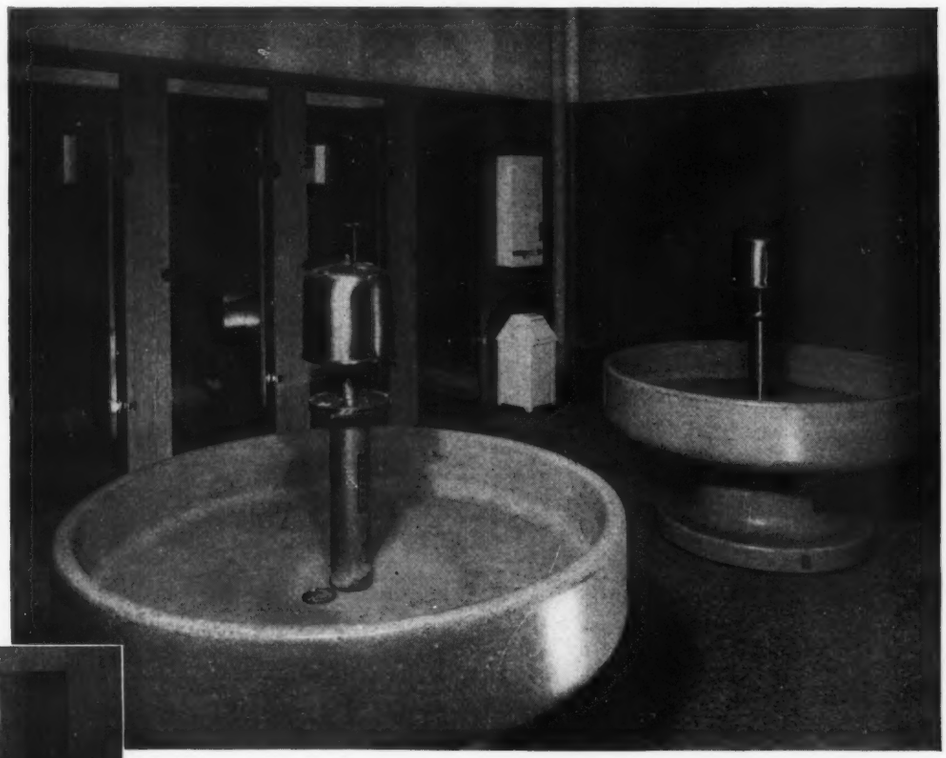
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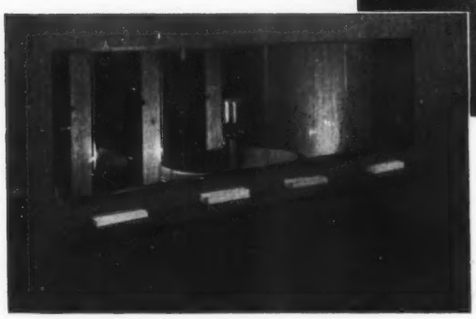
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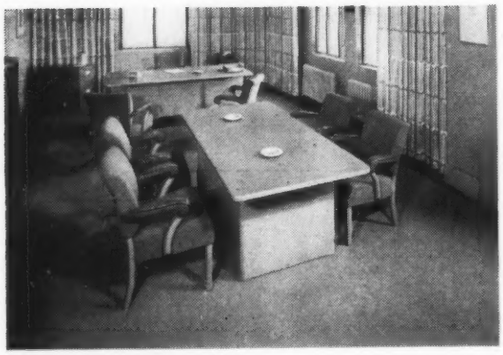
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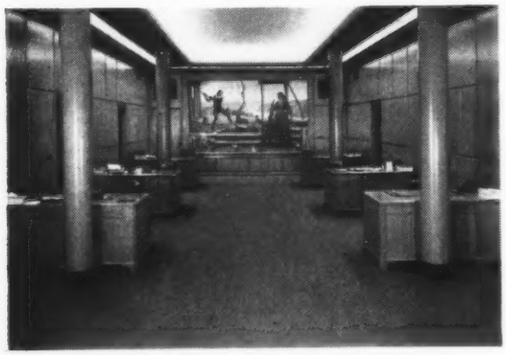
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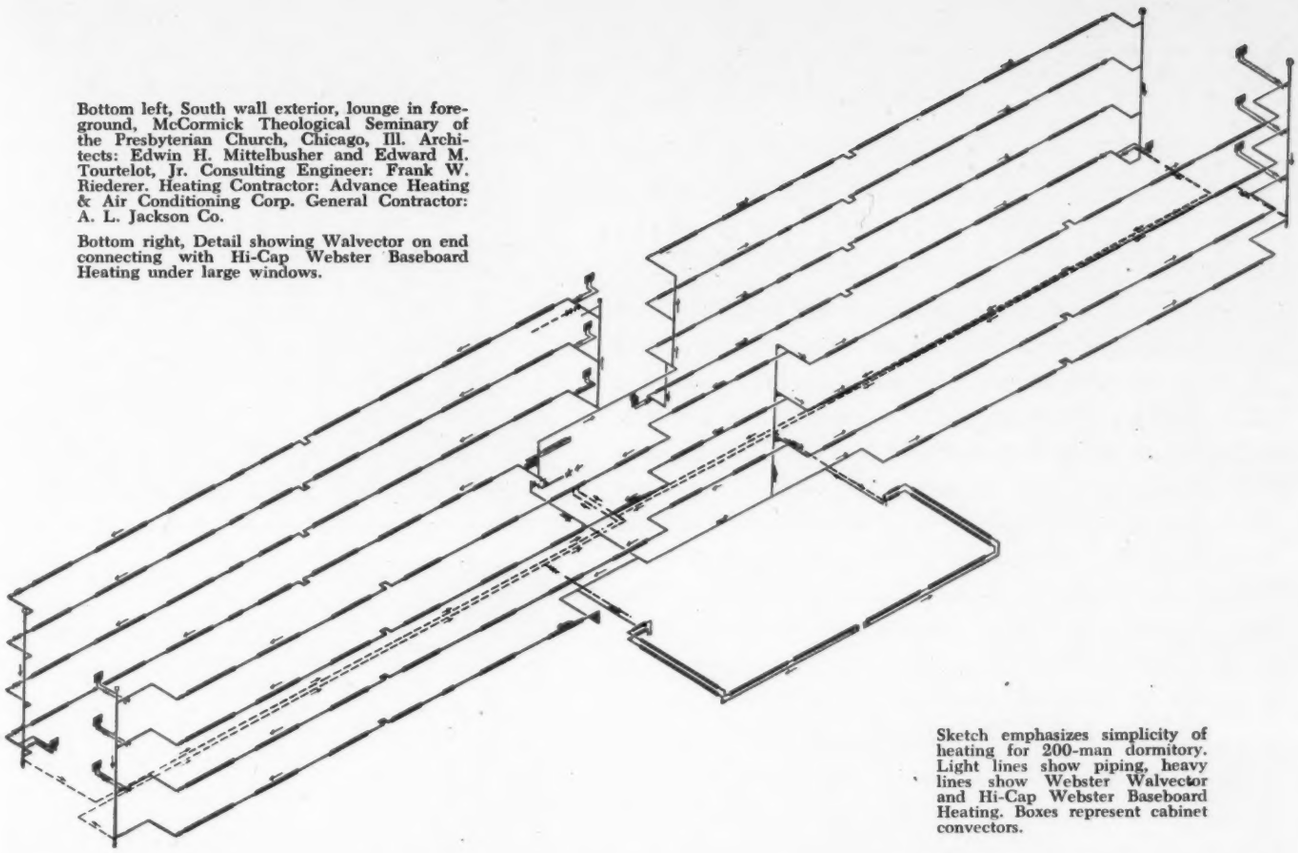
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Bottom left, South wall exterior, lounge in foreground, McCormick Theological Seminary of the Presbyterian Church, Chicago, Ill. Architects: Edwin H. Mittelbusher and Edward M. Tourtelot, Jr. Consulting Engineer: Frank W. Riederer. Heating Contractor: Advance Heating & Air Conditioning Corp. General Contractor: A. L. Jackson Co.

Bottom right, Detail showing Walvector on end connecting with Hi-Cap Webster Baseboard Heating under large windows.



Sketch emphasizes simplicity of heating for 200-man dormitory. Light lines show piping, heavy lines show Webster Walvector and Hi-Cap Webster Baseboard Heating. Boxes represent cabinet convectors.

Perimeter Heating for a Dormitory

True perimeter forced hot water Webster Heating was provided for the new dormitory building at McCormick Theological Seminary.

Continuous Heating Elements connected in series blanket the windows . . . spread the heat uniformly on every floor.

Consulting Engineer Frank W. Riederer says:

"The continuous radiation design contributed to economy of first cost. It eliminates exposed piping, leaves more usable room space, produces uniform heating.

"Steam from the Seminary's central heating plant is converted to hot water in a heat exchanger. In this design, the hot water system proved less expensive and more satisfactory than a system using steam."

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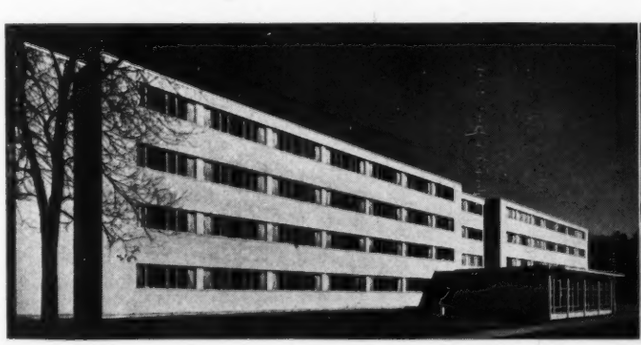
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Frigidaire air conditioning and refrigeration units

LOCATION: Yakima, Washington
OWNER: Yakima Valley Memorial Hospital

The maintenance of proper temperatures in a large hospital—near zero for frozen-food storage to comfort air conditioning for patients and staff—presents many an engineering problem—and calls for a variety of specialized equipment. The architects and engineers of the Yakima Valley Memorial Hospital knew that this equipment must be dependable, too—to provide not only a wide range of temperatures, but precise control of these temperatures at all times, under all conditions.

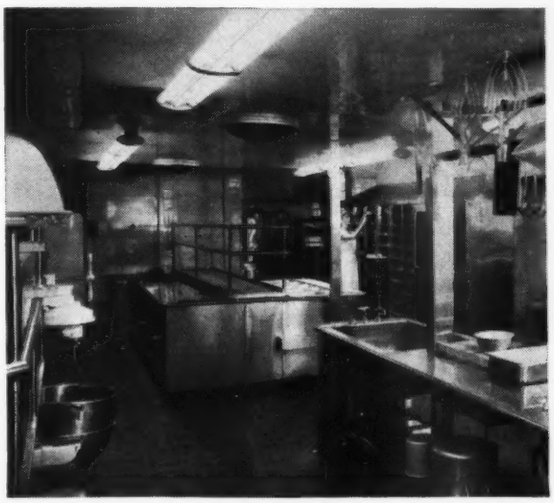
Like many modern hospitals, Yakima Valley Memorial Hospital is equipped throughout with Frigidaire Air Conditioning and Refrigeration. The following is quoted from a letter written by George V. Rankin, Chairman of the Building Committee.

"Our hospital is 100% equipped with Frigidaire Air Conditioning and Refrigeration, including kitchen and food storage equipment as well as biological and blood bank refrigerators. One full year of most satisfactory operation indicates that we made a wise selection when we chose Frigidaire."

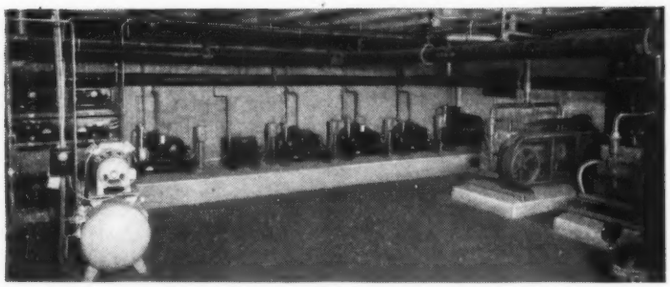
For expert help in planning installations of this kind—or in solving any air conditioning or refrigeration problem—call the Frigidaire Dealer, Distributor or Factory Branch that serves your area. Look for the name in the Yellow Pages of your phone book. See Frigidaire catalogs in Sweet's Files or write Frigidaire Division of General Motors, Dayton 1, Ohio. In Canada, Leaside (Toronto 17), Ontario.



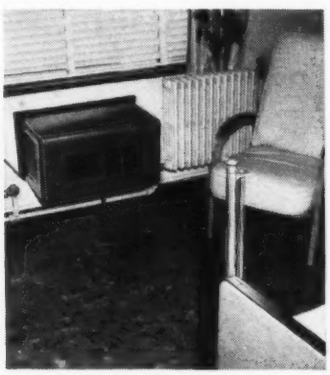
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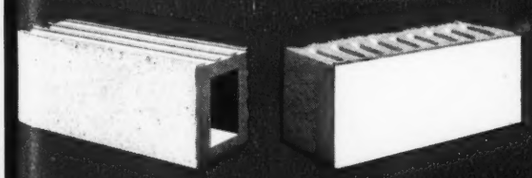
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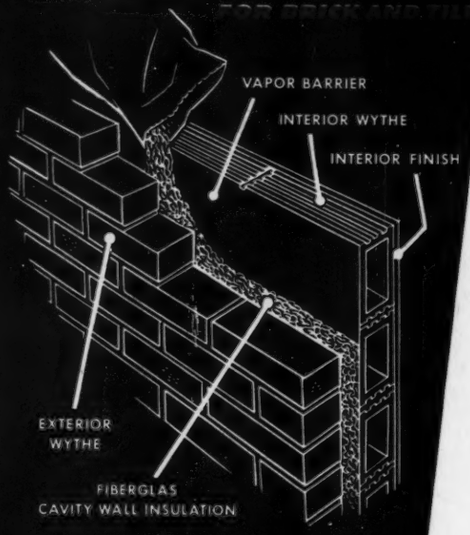
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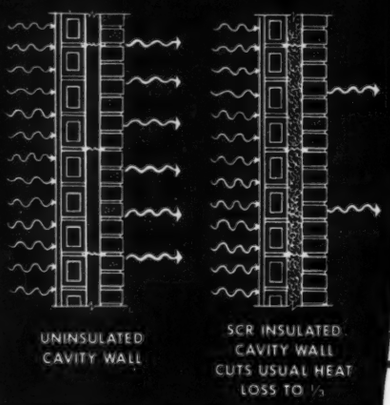
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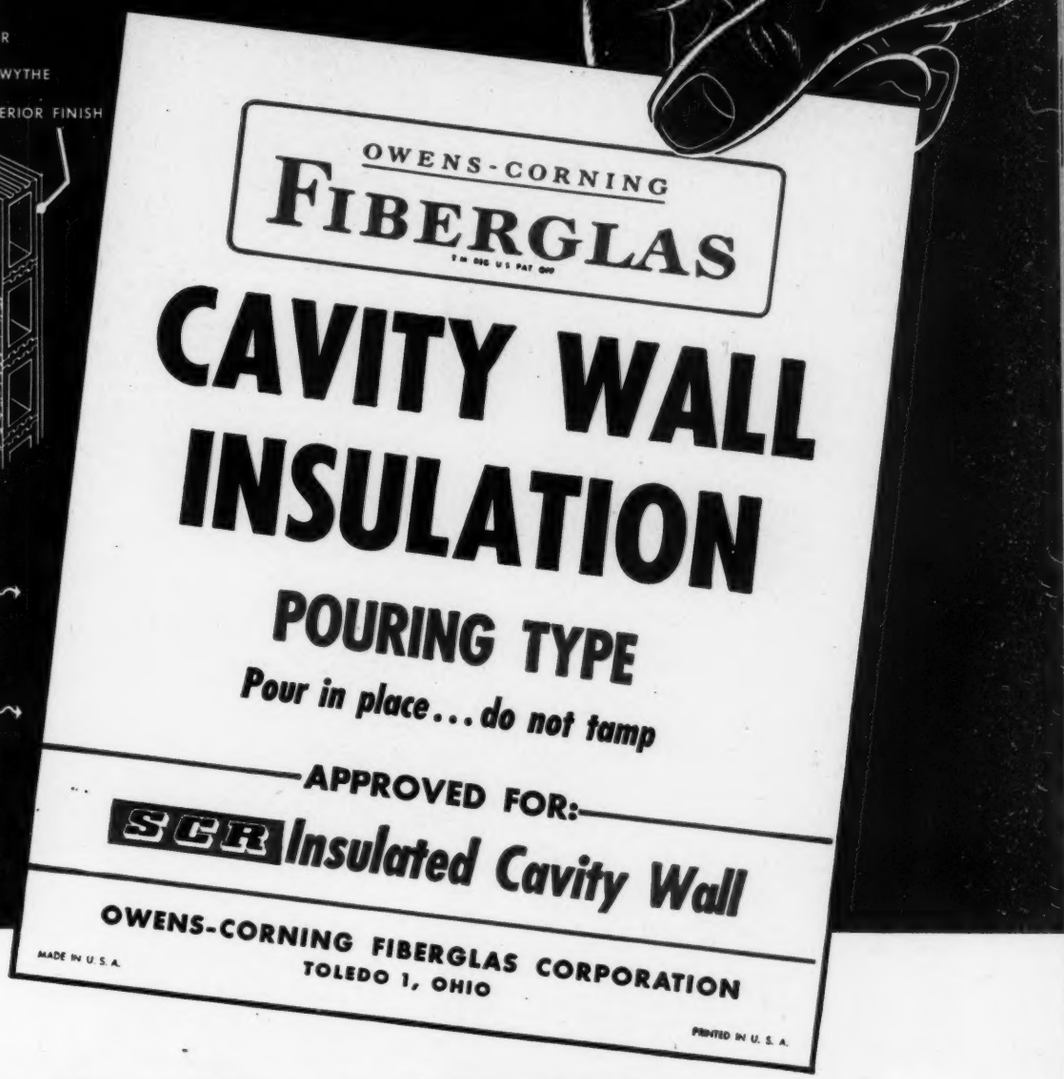
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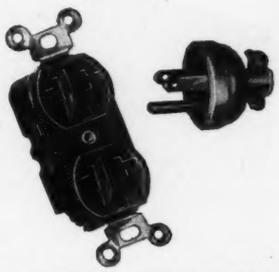
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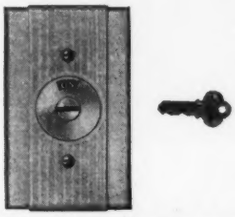
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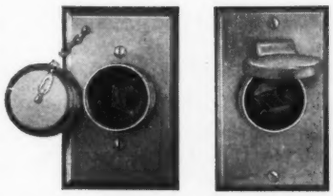


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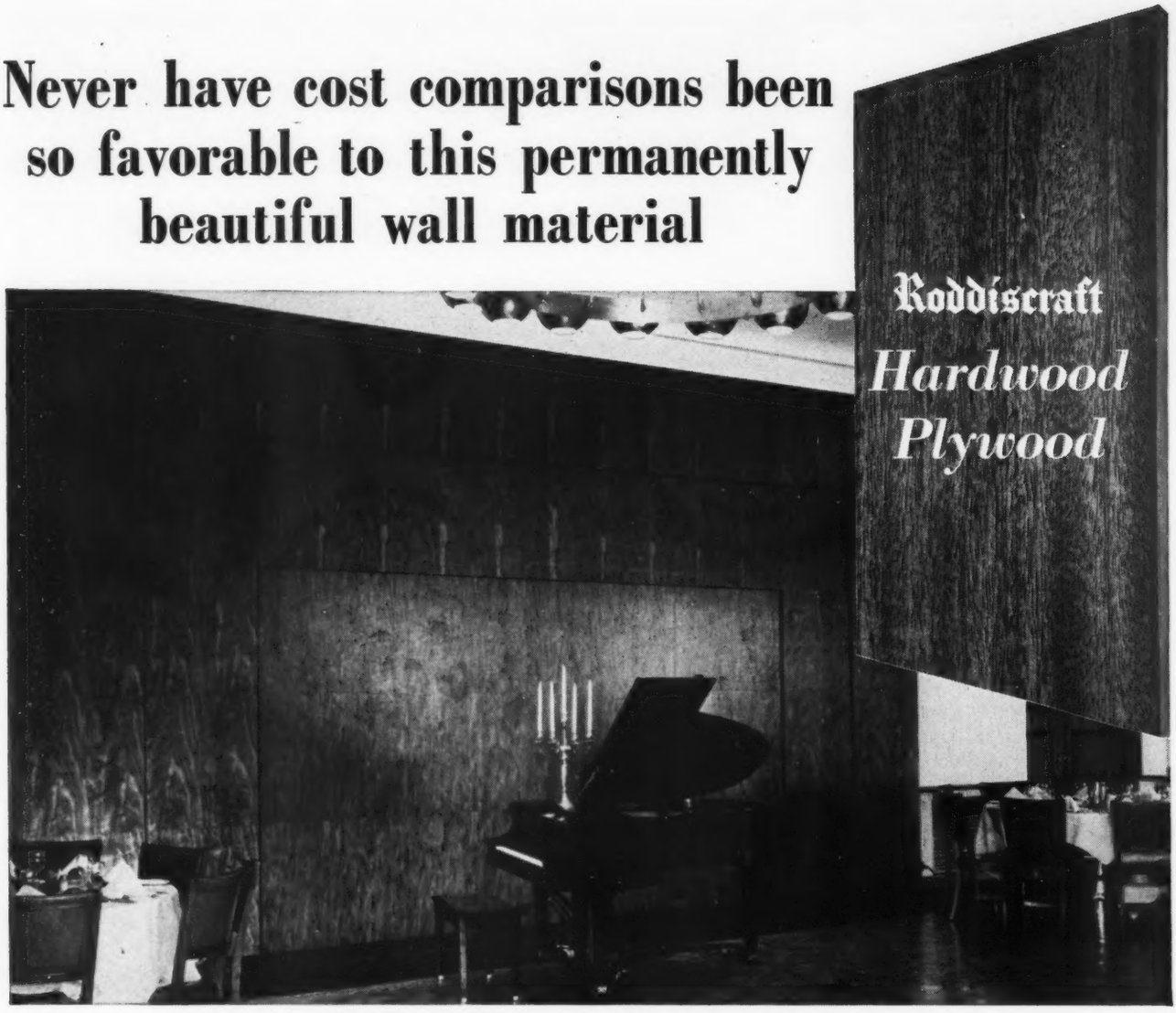
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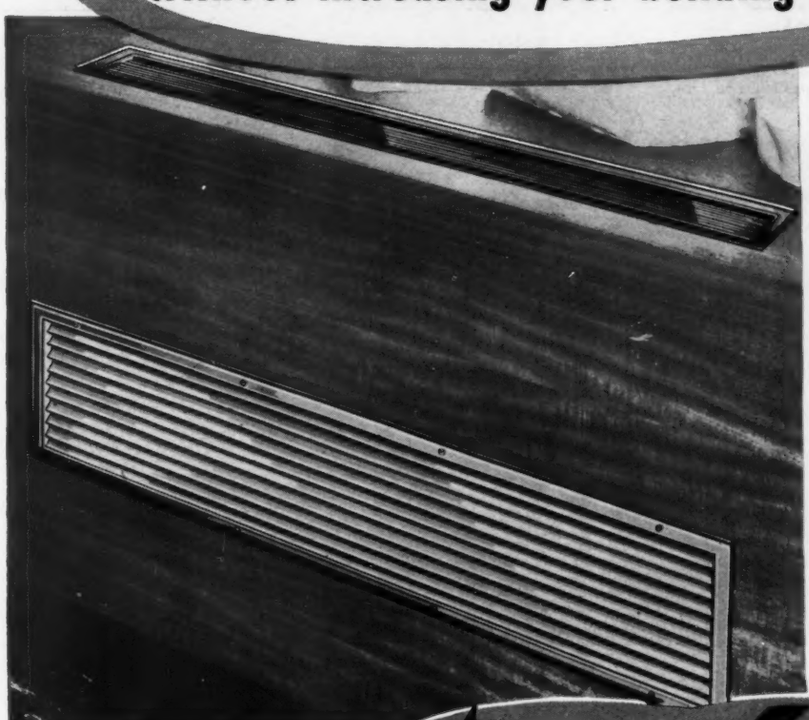
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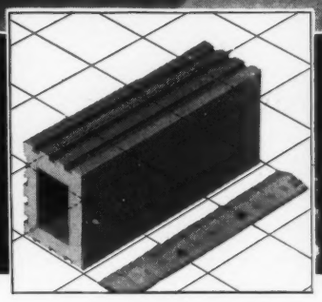




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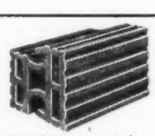
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Ceramic, Clear Glazed Vitritile 5⅓" x 12" Nom. Face Size



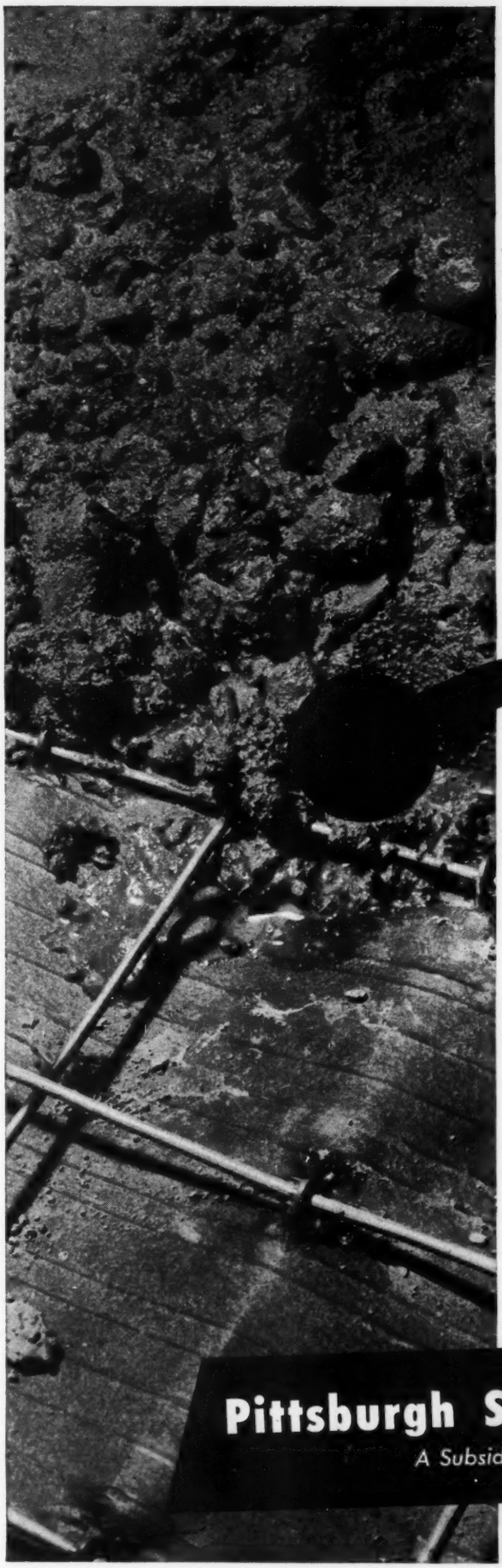
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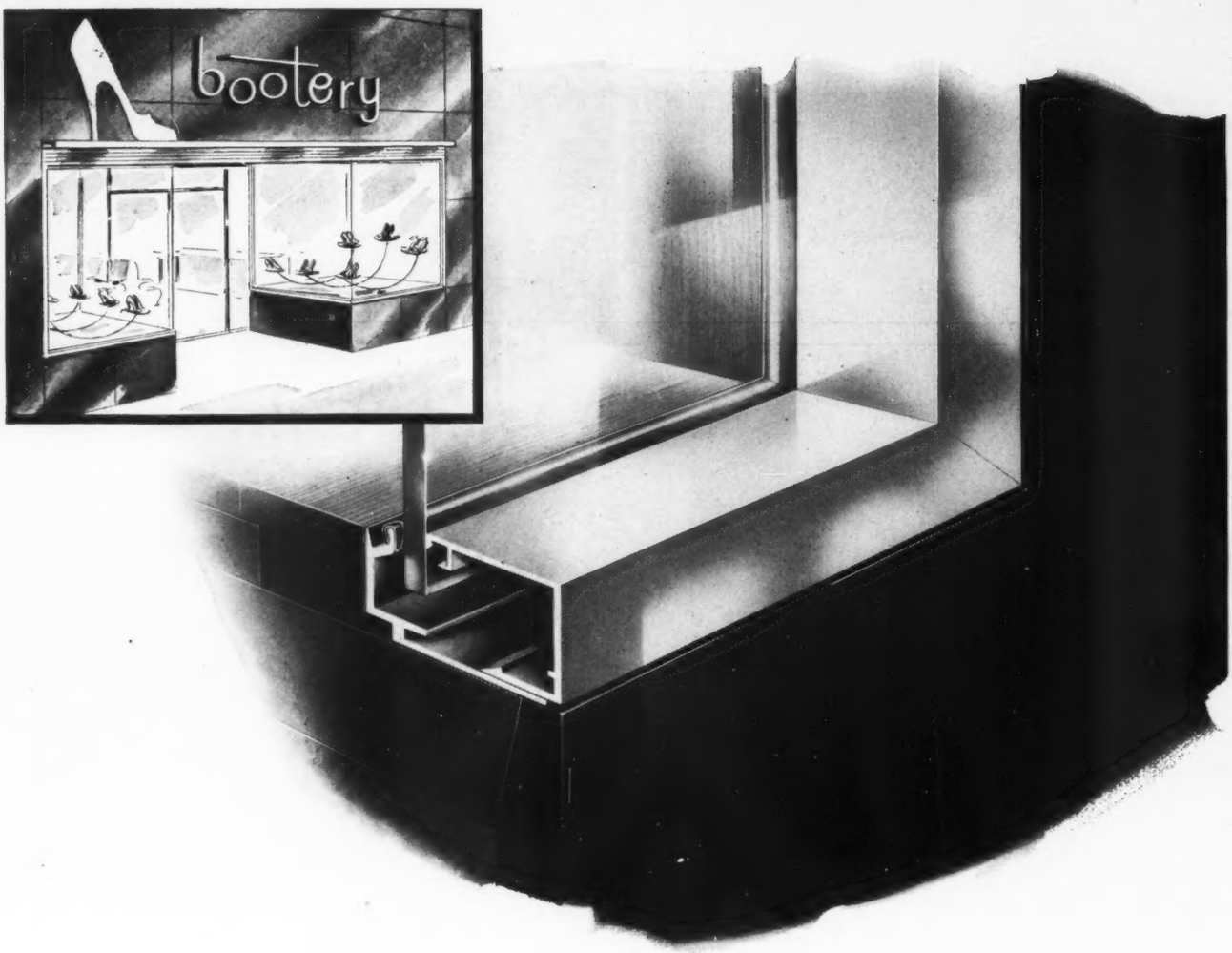
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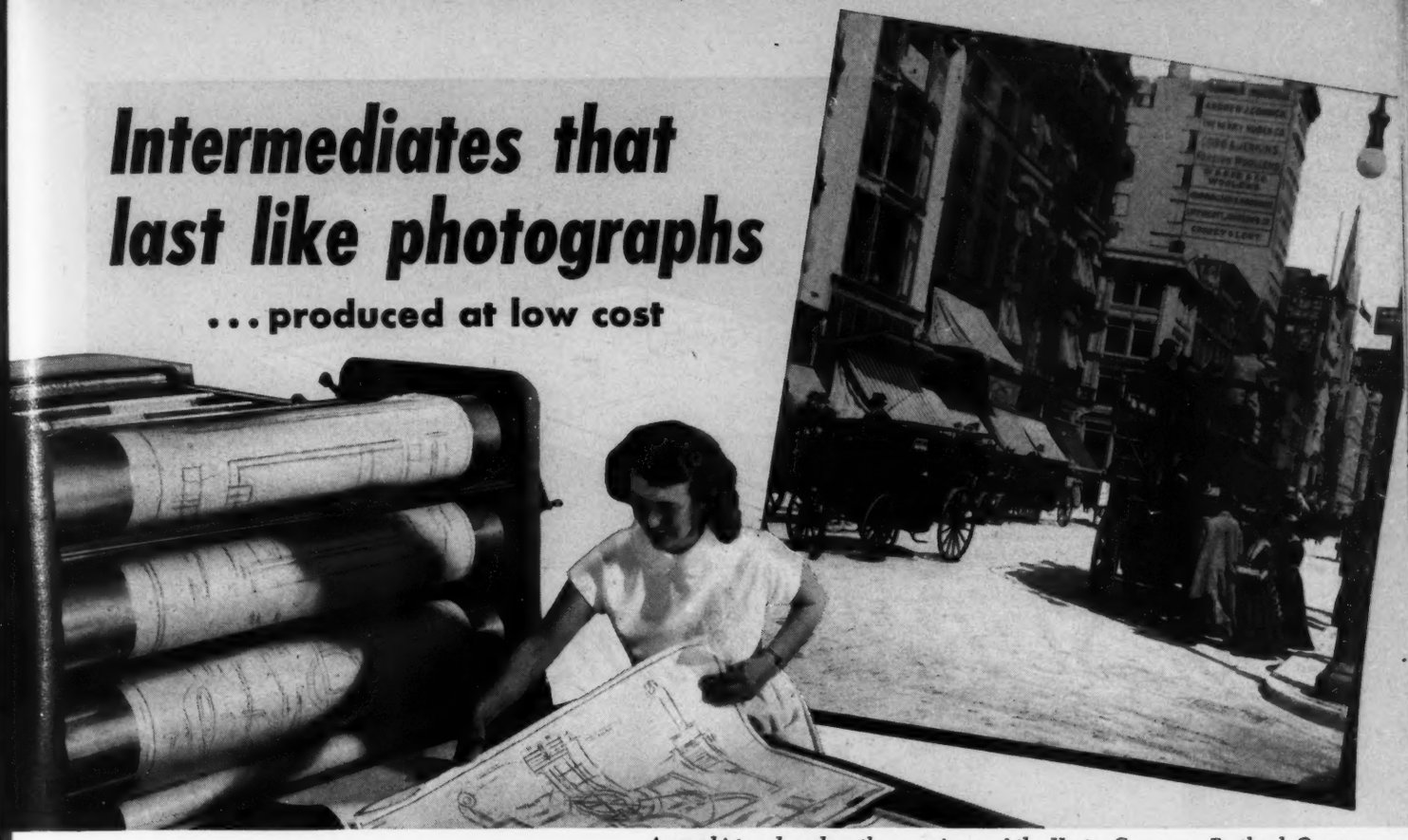
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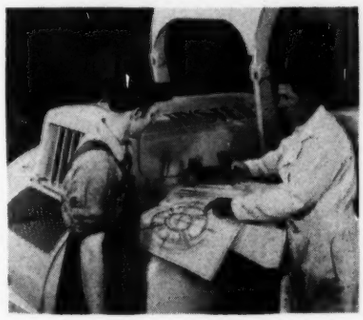


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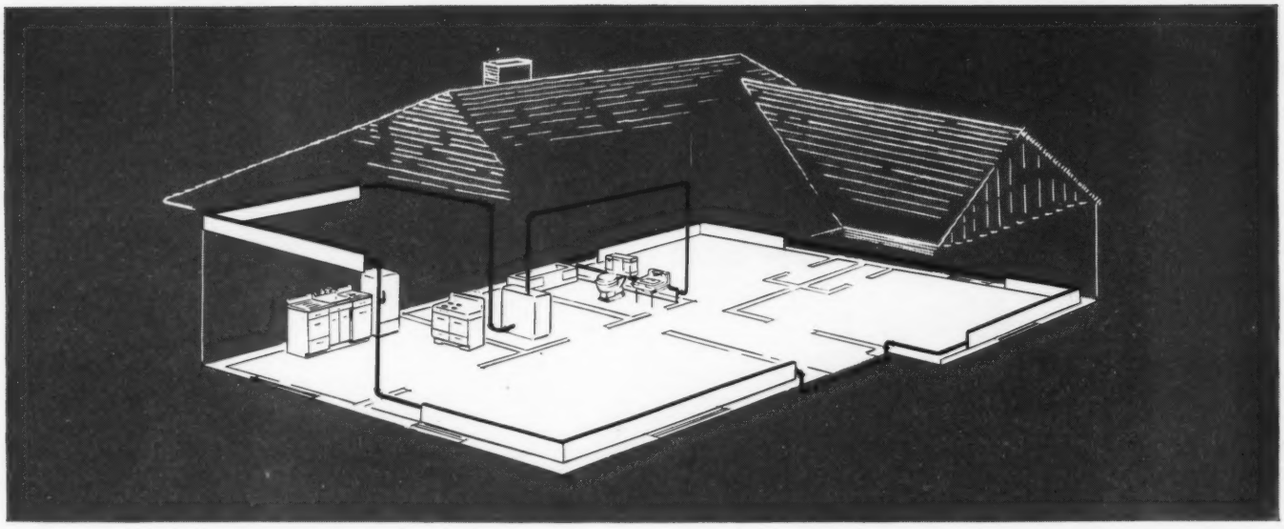
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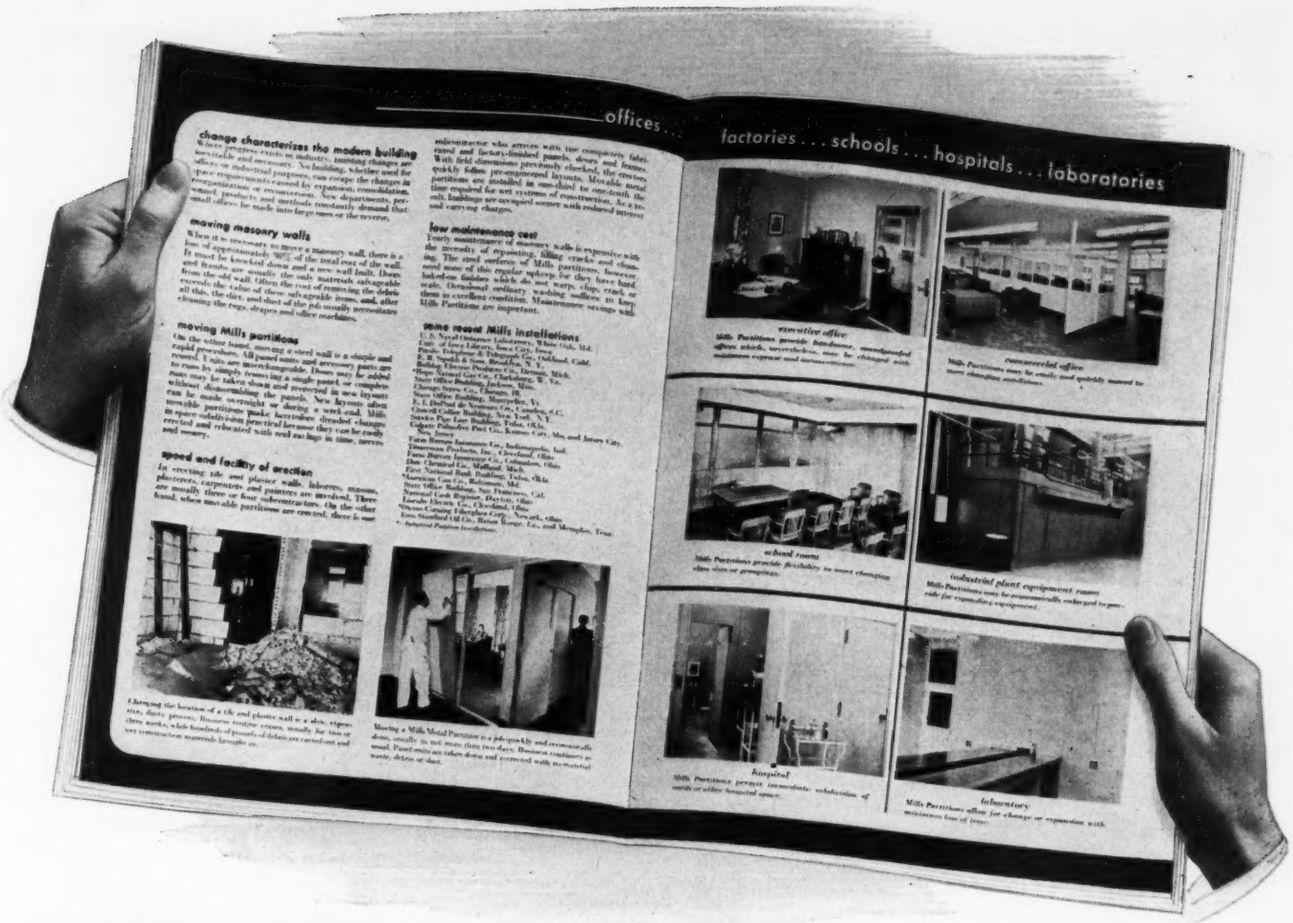
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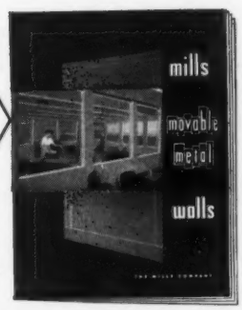
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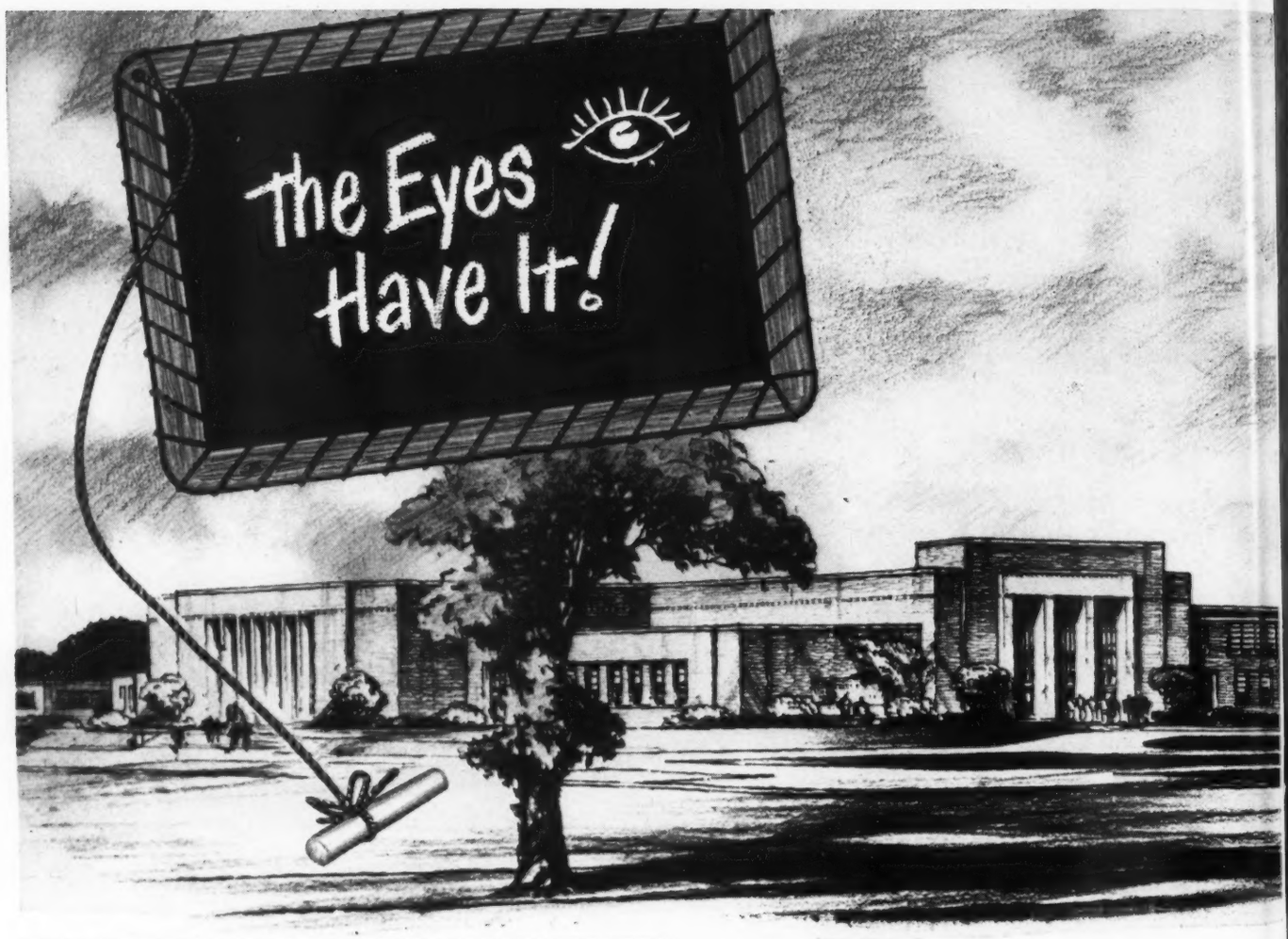
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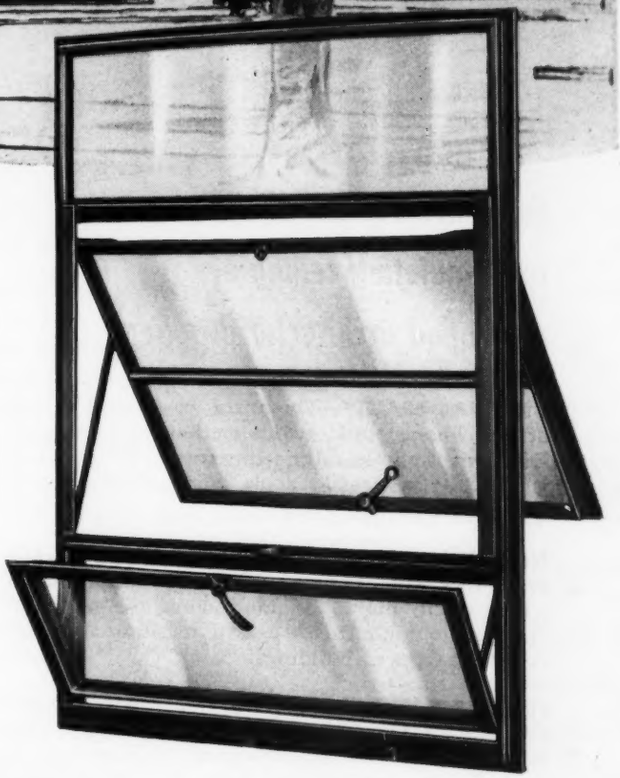
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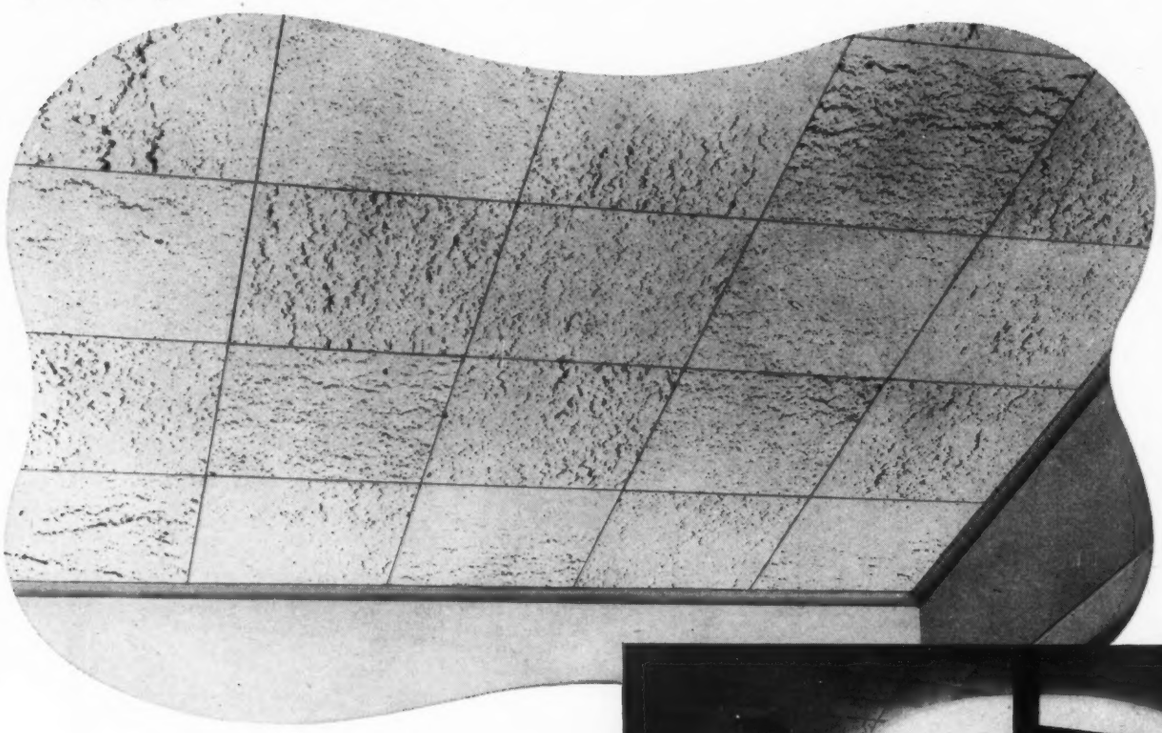


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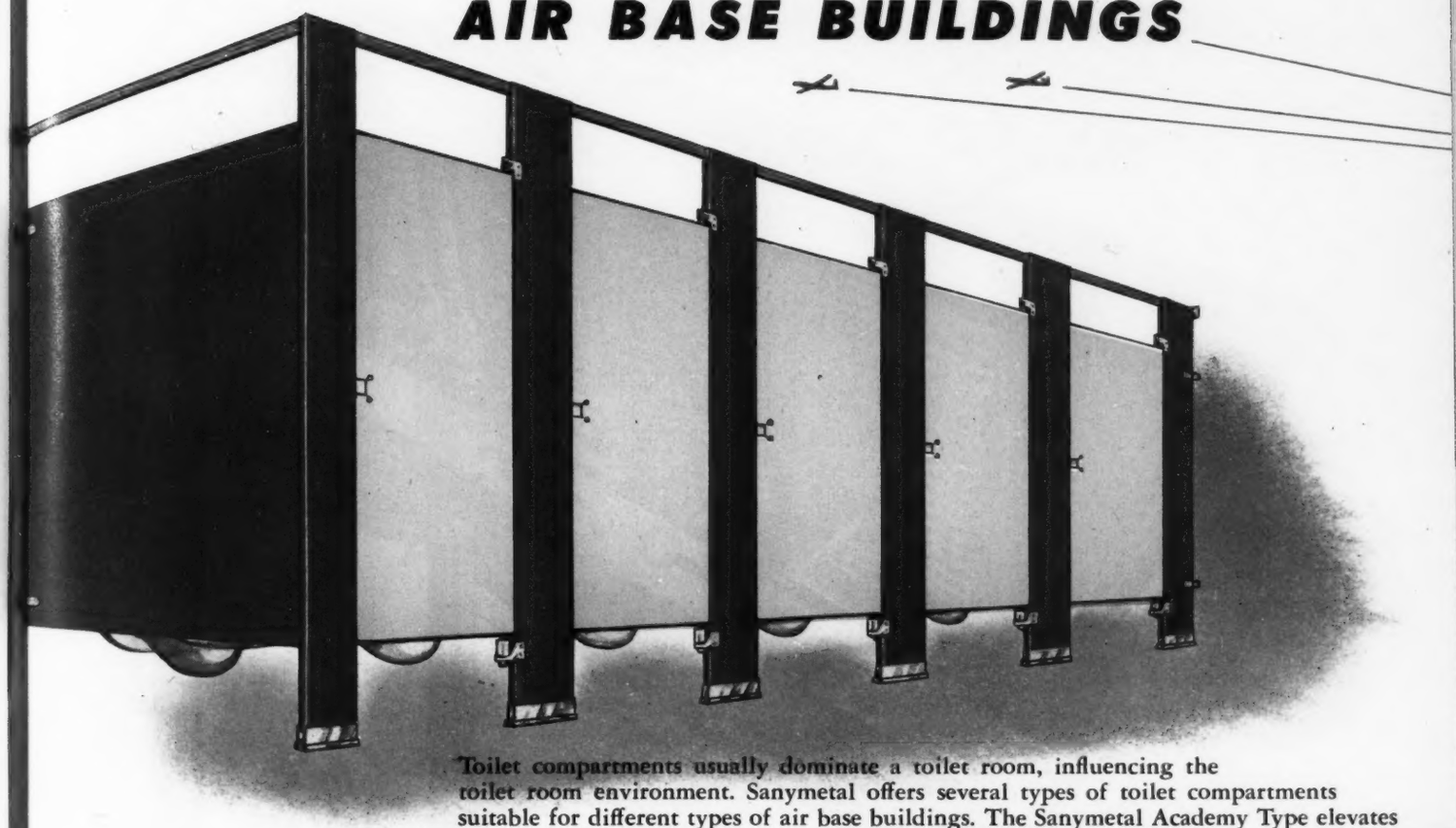
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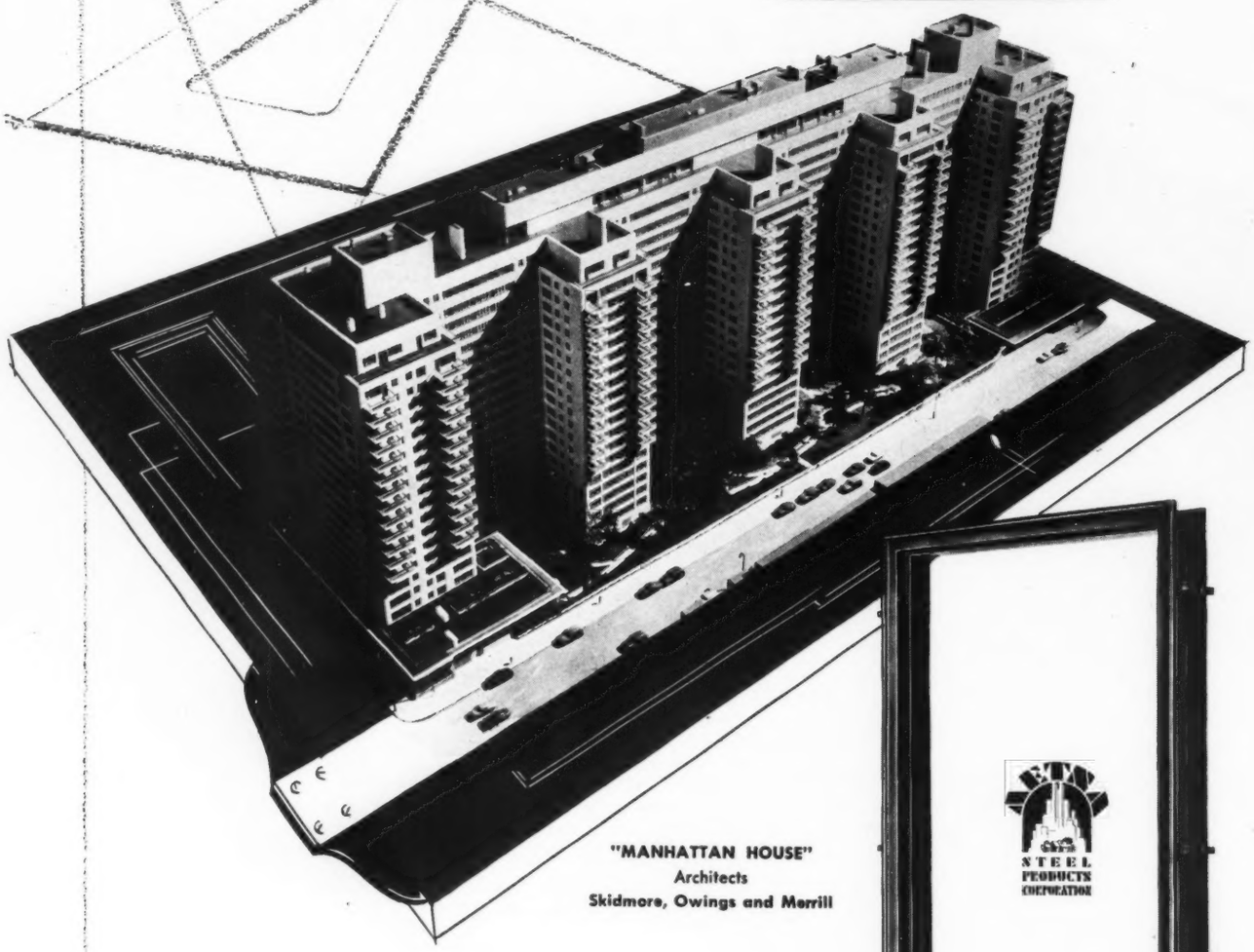
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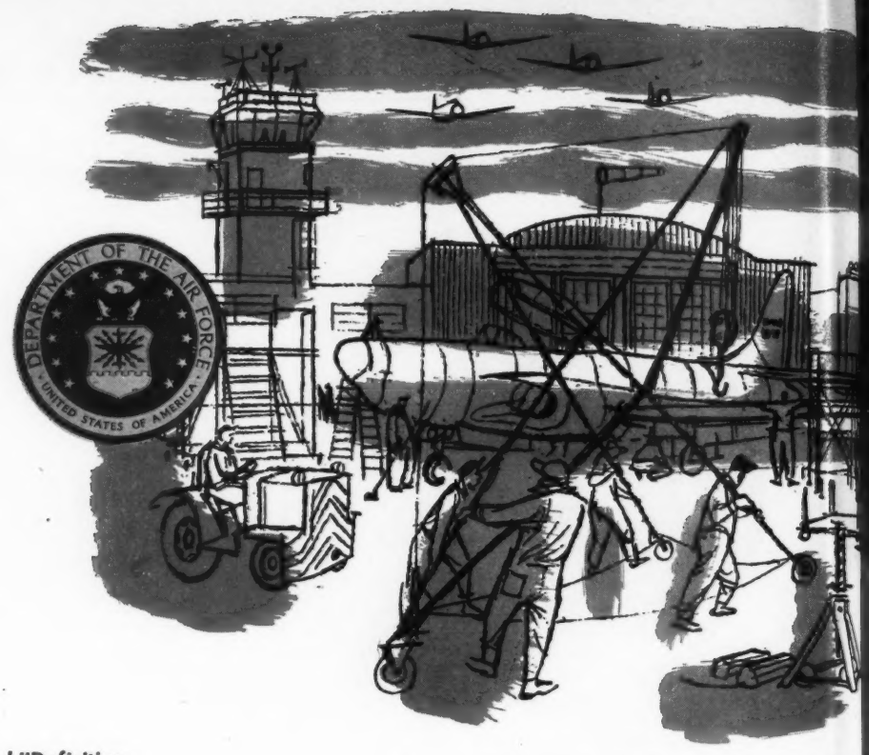
AIR FORCE BUILDINGS

ARCHITECTS anxious to turn their talents to buildings for the Air Force will find a well formulated program, complete with planning criteria, awaiting them. Architect-engineer contracts are given out by the Division and District offices of the Army Corps of Engineers (see ARCHITECTURAL RECORD, March, 1951, for directory), where full instructions and basic planning aids are available. While the background planning study for various types of buildings, from barracks to celestial-navigation-trainer buildings, was done by a central architectural unit for the Air Force, all of the prototype plans are given out to participating architects through the decentralized offices of the Corps of Engineers. No Washington contact is necessary.

Planning aids take the form of "definitive drawings" for various types of buildings (there are more than two hundred drawings), plus a set of outline specifications. The definitives are basic plans, similar to the usual preliminaries, for various sizes and types of dozens of specialized buildings. They are not working drawings, and they leave a good deal of scope to individual architects.

The definitives are the result of intensive field surveys of the special requirements of Air Force buildings by staff architects of the Architectural Services Branch of the Directorate of Installations. Through such study, criteria have been developed for all standard types of buildings, to insure functional adequacy, economy of construction and speed of execution. Participating architects, then, are presented with a prepared parti for each building and outline instructions as to specifications, from which to complete an architectural design suited to local conditions, final plans and working drawings, detailed specifications and contract documents.

Architects are called upon to work to rigid dictates of economy, in fact the word "austerity" is heard frequently in the Pentagon. In spite of the ease with which Washington talks about billions — and the Air Force building program does run into billions — military architects are extremely sensitive to murmurs of extravagance. The American airman, like the American foot soldier, will be the best housed and best fed in the world, but there will be no fanciness in his buildings.



Directorate of Installations

Major General Patrick W. Timberlake
Brigadier General C. M. Myers

Architectural Services Branch

Colonel Stewart A. Marshall, Jr., Military Chief
Lt. Col. Edwin M. Loye, Deputy Military Chief
Carl C. Sanford, Civilian Chief

Drafting of Definitive Drawings by Mills & Petticord

Drawings by Marilyn Miller

PLANNING BU

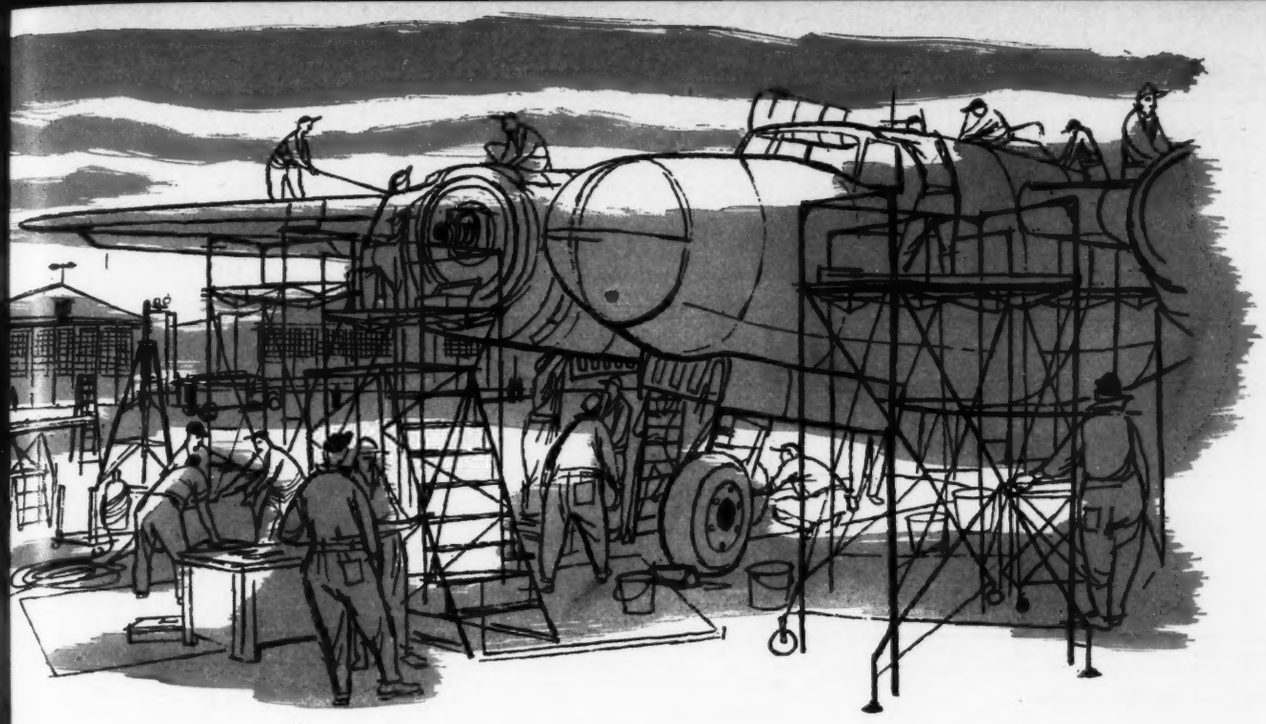
Selected Plans from "Definitive Drawings, 1951" and "Definitive Drawings, 1952," prepared by the Architectural Services Branch, Directorate of Installations, U. S. Air Force

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ARCHITECTS undertaking commissions to plan buildings for the Air Force will be expected to produce final plans, working drawings and contract documents expeditiously, and they may expect to adhere to the strictest dictates of economy. They are not asked, however, to put aside imaginative urgings or commonsense inventiveness; they are, in fact, expected to exhibit their usual design ingenuity within the requirements of function and budget. Of course, should the design urge run to useless embellishments or nostalgic doodads, the Engineer Corps, which makes contracts for the Air Force, will give it all a crisp veto. But the whole Air Force building program is designed to utilize the services of private architects, local architects wherever possible, and to exact full performance.

Most of the background thinking has already been done by the Air Force Architectural Services Branch, Directorate of Installations, and is available to participating architects in the books of definitive drawings which may be reviewed at the various offices of the Engineer Corps. These show the requirements, space allotments, and policies of the Air Force for a great variety of more or less standard building types. These drawings, with the Outline Specifications, become virtually the Air Force instructions to the Corps of Engineers, and thence to commissioned architects. They are essentially diagrammatic floor plans; the architect is then to develop site plans, provisions for utilities, working drawings, detailed specifications and contract documents.

Air Force buildings for the current emergency are assumed for a 10-year life, though in some for permanent use the specifications are drawn for a 25-year



BUILDINGS FOR THE U. S. AIR FORCE

life. And the 10-year buildings are so designed that with some refinements in finishes, siding, roofing and so on they will meet the 25-year specifications if these are required for longer use.

The 10-year description comes from the assumption that in general new installations will be semi-permanent, as part of a preparedness program of unpredictable duration. Some bases, on the other hand, are planned as part of a permanent, or 25-year, standing defense installation. It is assumed, too, that some of the semi-permanent bases may later be designated permanent, and the 10-year buildings brought up to 25-year standards. In any case, the policy is to anticipate the dismantling of most bases and building installations, and hold investments to a minimum.

Actually the savings represented by the differences in specifications are not up to expectations at the time the policy was laid down by Congress, when the savings were lightly assumed in the neighborhood of 20 per cent; life expectancies for buildings are pretty vague calculations, and for any building it is necessary to use a sound structural system and a certain minimum of equipment. The area for savings then is limited to such minor items as siding material, roofing, floor and wall finishes. Nevertheless there is some saving, and if the building is dismantled according to plan, the savings hold, for the experience of wartime shows that virtually nothing is salvaged when military buildings are junked.

The difference in planned life is, usually, merely a matter of specifications, not of plan. In other words, the floor plans in the definitive drawings hold, no matter what the assumed life.

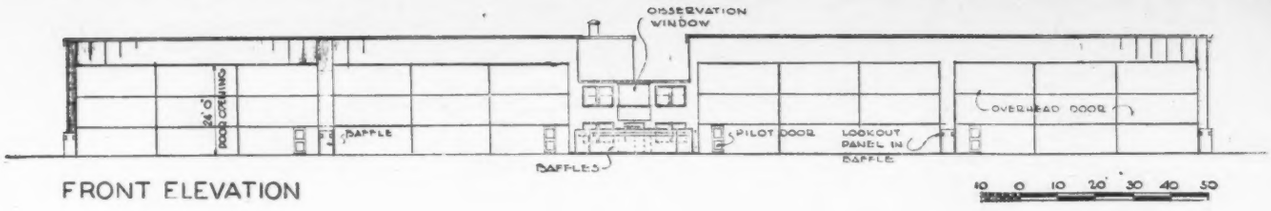
Specifications are given in fairly general terms in the "Outline Specifications for Standard Air Force Buildings," for the two major categories, which are usually referred to as Type C (combustible) and Type N (noncombustible). Type C is, of course, normal wood frame construction, and the specifications assert that this "will be accepted from the standpoint of longevity and should be considered in every case except where combustible materials are specifically prohibited or where more durable and satisfactory construction is obtainable at a cost no greater than that of wood frame."

Also, "These specifications are not intended to preclude the use of new materials and construction methods if they are comparable in cost and equally suitable."

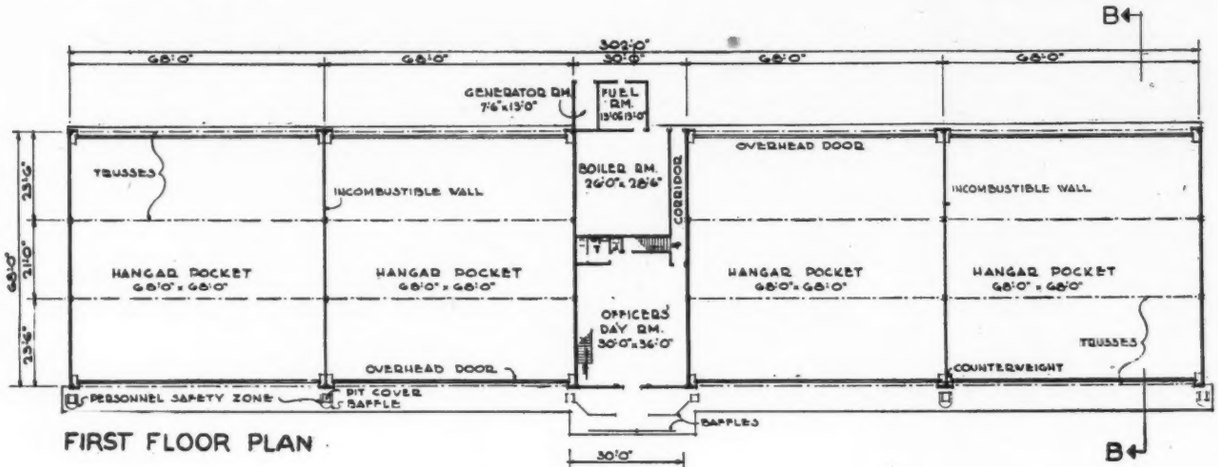
Prefabricated construction is encouraged, with the usual stipulations as to cost and suitability.

Of especial interest to architects is this paragraph: "It is not considered essential that new structures conform with the established style of architecture at existing installations. It is desirable instead that the designs be consistently economical and generally in harmony with the simple contemporary architectural trends, devoid of any details or ornamentations, applied purely for the sake of embellishment. Full advantage should be taken of the use of the natural textures and color of the materials employed as well as of the variety afforded by the properly selected color schemes where paint is applied."

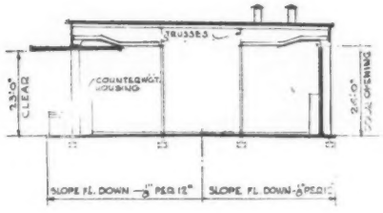
In other words, even though he may be called upon to follow floor plans with near exactness, he must determine architectural styling, must adapt plans to local climate, and will find considerable range in fenestration, overhang, materials and colors. He is still expected to be an architect, and to think as such.



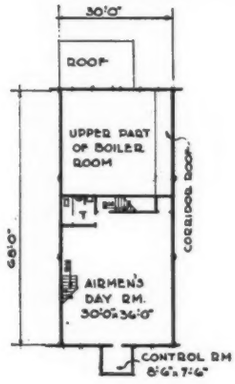
FRONT ELEVATION



FIRST FLOOR PLAN



SECTION B-B



SECOND FLOOR PLAN

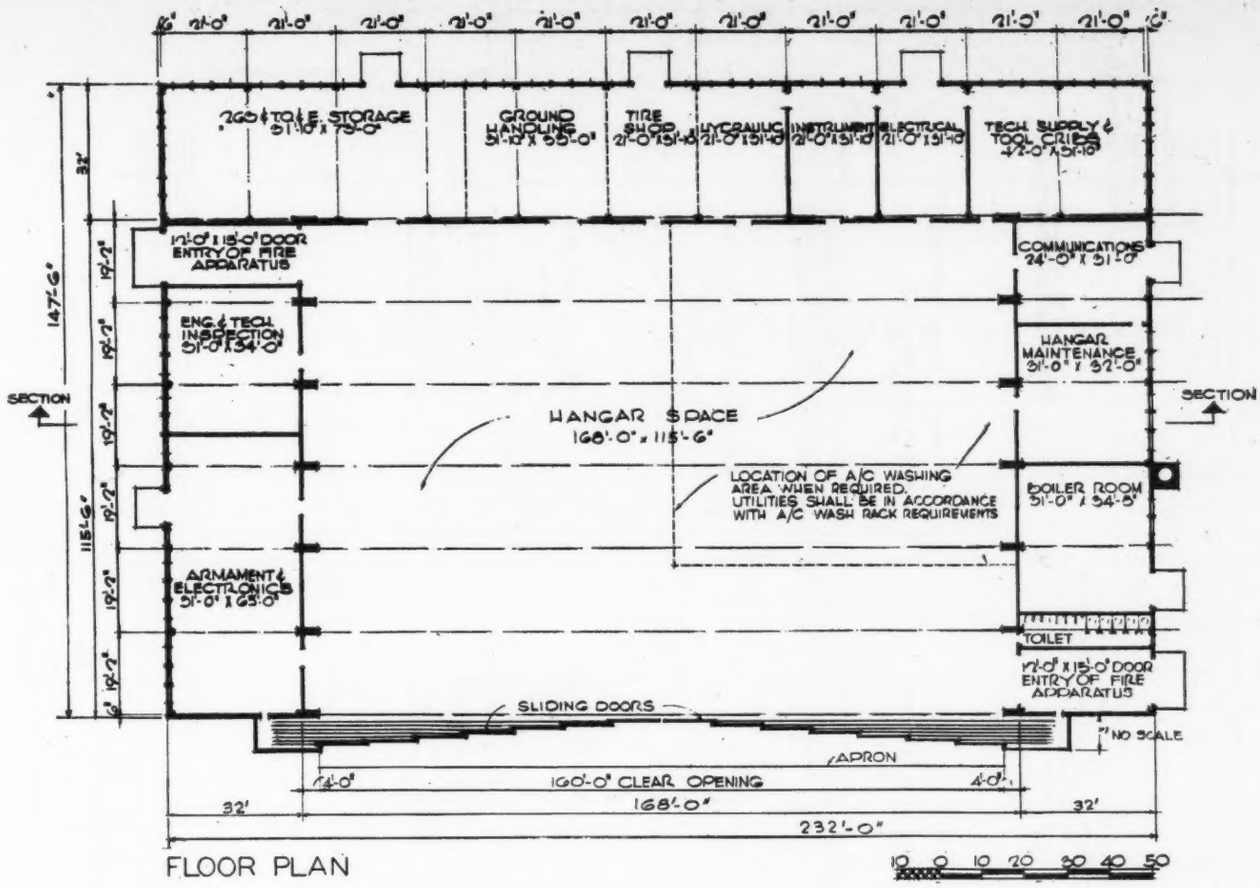
ALERT HANGARS

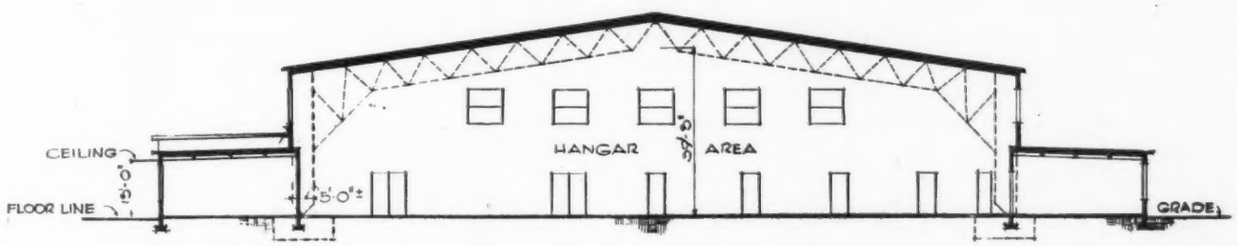
THE AIR FORCE "alert hangar" represents a new concept of defensive preparedness, in which fighter planes are to be air borne within 90 seconds. Such fast action imposes a number of requirements which, in the first place, necessitate keeping the alerted planes in hangars, and also then dictate the design of the hangar. Planes must be under cover so that they can be kept warmed up, manned, and ready to fly.

Actually the planes must take off right from the hangar; there is no time in the 90-second schedule for wheeling them out. A hangar which is actually a take-off point must, then, fulfil some special requirements. In the first place, the hangar must have quick-operating doors, both front and back, so that the plane can move quickly, and so that its power will not blow the building apart. The requirement is for vertical-operating doors to achieve full opening within 30 seconds. The hangar form must be narrow, with one pocket for each plane. It must be fire-resistant, of course, and heated. It must also have accommodations for airmen, comprising a day room for officers, on the ground floor, and one for airmen on the second floor. Note also on the plan the baffles at the personnel entrance and at the pocket partitions; these are for protection against the air blast, or jet blast. The individual baffles between pocket doors protect the man operating the doors when the plane takes off.

Each alert hangar is arranged for four alerted planes. The scheme is to have sufficient hangar pockets, in several hangars, for the first flight of fighter planes to take off during an alert. Other fighters might be kept in a "readiness hangar," as a second line. These planes would have some more time than the first flight; the normal plan would be for them to take the places of the first flight in the alert hangars to await signals to take off.

The alert hangar might appear at any base from which fighter planes would operate, whether an advanced base or an "aircraft control and warning station." So, while this is a new type of hangar, it is expected to be built in large numbers, so that the Air Force is never caught with its fighters on the ground.





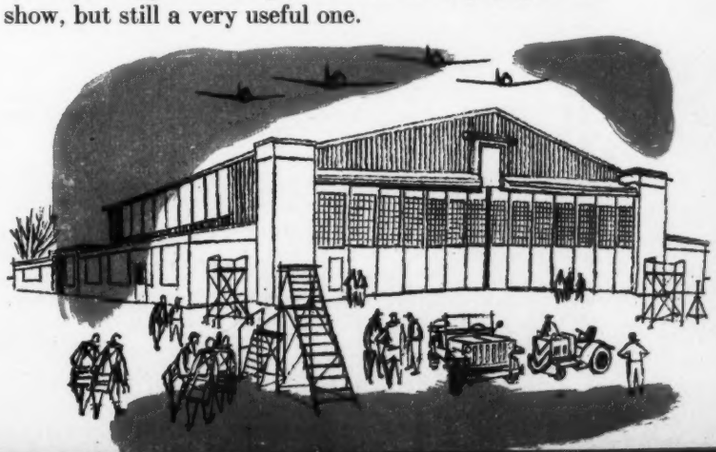
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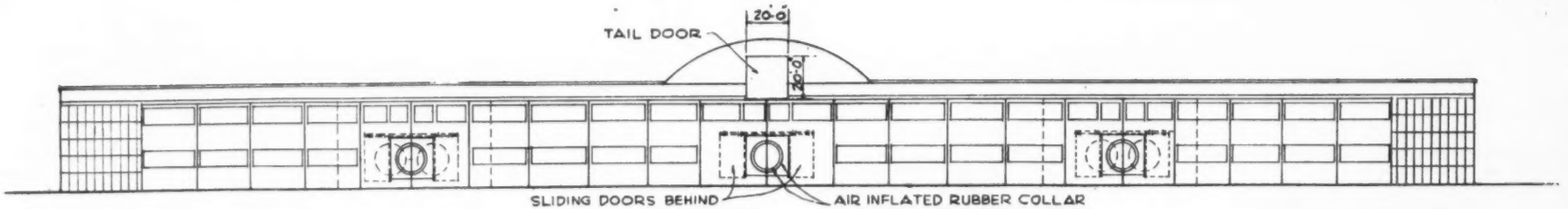
READINESS HANGARS

THE READINESS HANGAR is one of the Air Force hangar designs that uses the conventional form so familiar in the last war. It is really a multiple-purpose hangar, without the highly specialized requirements of the alert hangar, but useful in many ways.

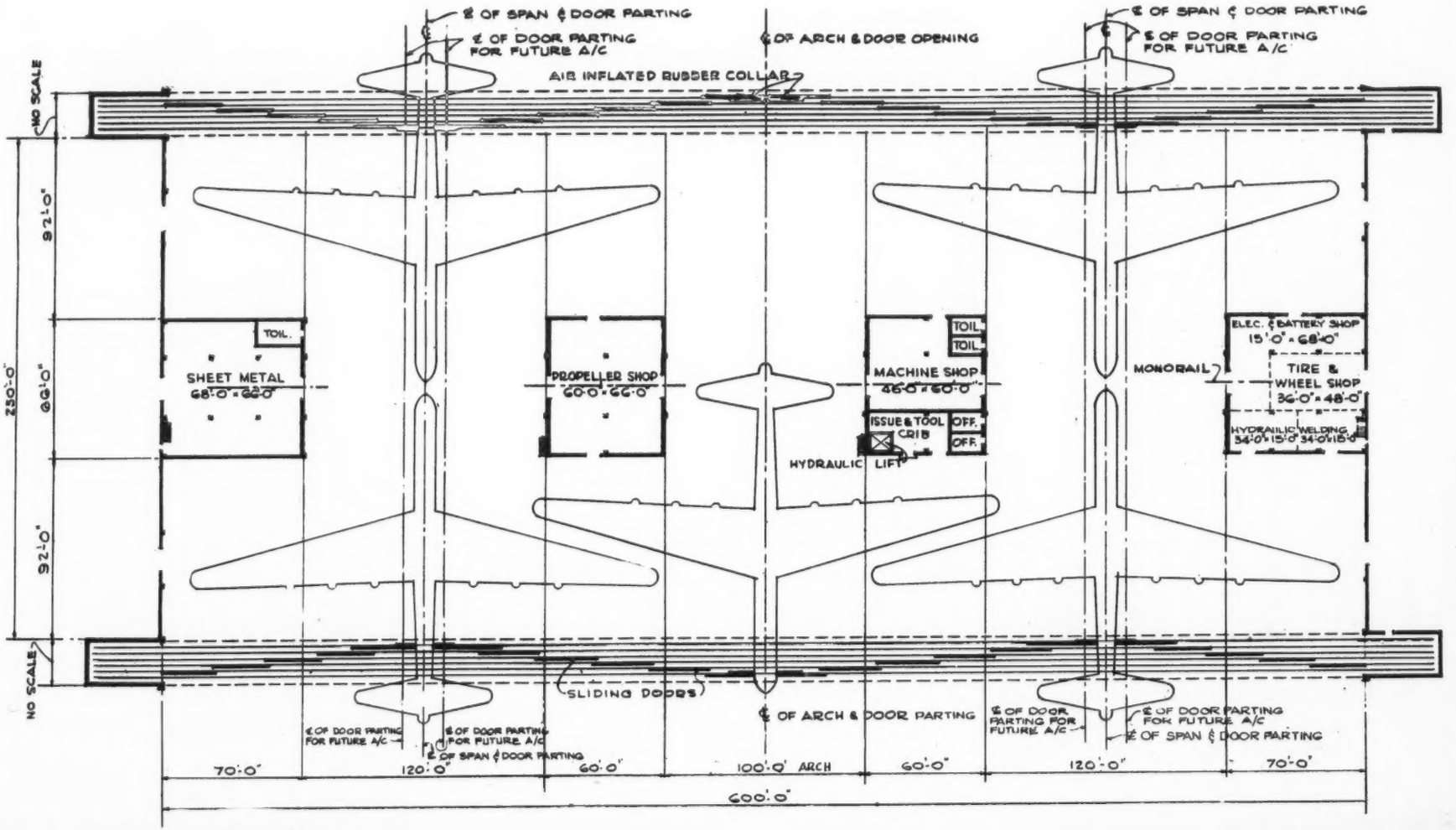
For planes kept "in readiness" it provides a place where fighter planes, or even larger ones, can be parked under cover, kept warm, and can be taken out with reasonable despatch, either to use or to the alert hangar. Thus the long-span, completely open interior is desirable. There is no thought, however, that planes would be kept lined up for instant service, or that they would actually be flown out of the hangar.

The readiness hangar is also a maintenance shop for anything short of major overhaul. It is quite possible to use the hangar for both readiness and service at the same time. Or, of course, for almost any hangar service in case the operations of the base should change. It is useful also for many different types of planes, short of the largest bombers. It is in many respects an old-fashioned type of hangar, as succeeding pages will show, but still a very useful one.

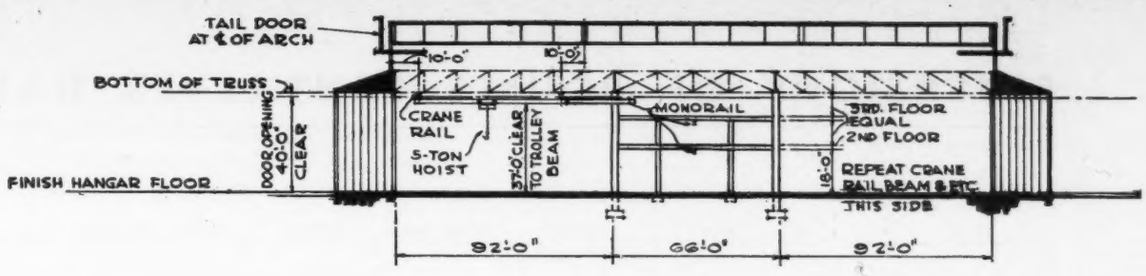




FRONT AND REAR ELEVATIONS



GROUND FLOOR PLAN



DOUBLE CANTILEVER HANGARS

ONE of the most interesting hangars is the new double-cantilever type now under development by the Air Force. It promises to change the form of long-span hangars in the future, through one of those simple switches in concept which makes one say, "Why didn't I think of that?"

In principle it amounts to turning the structure sidewise, so that the distance spanned is toward the hangar doors and away from the center of the hangar. Thus, in theory, the hangar dimension corresponding to the wing spread of the plane is completely unlimited.

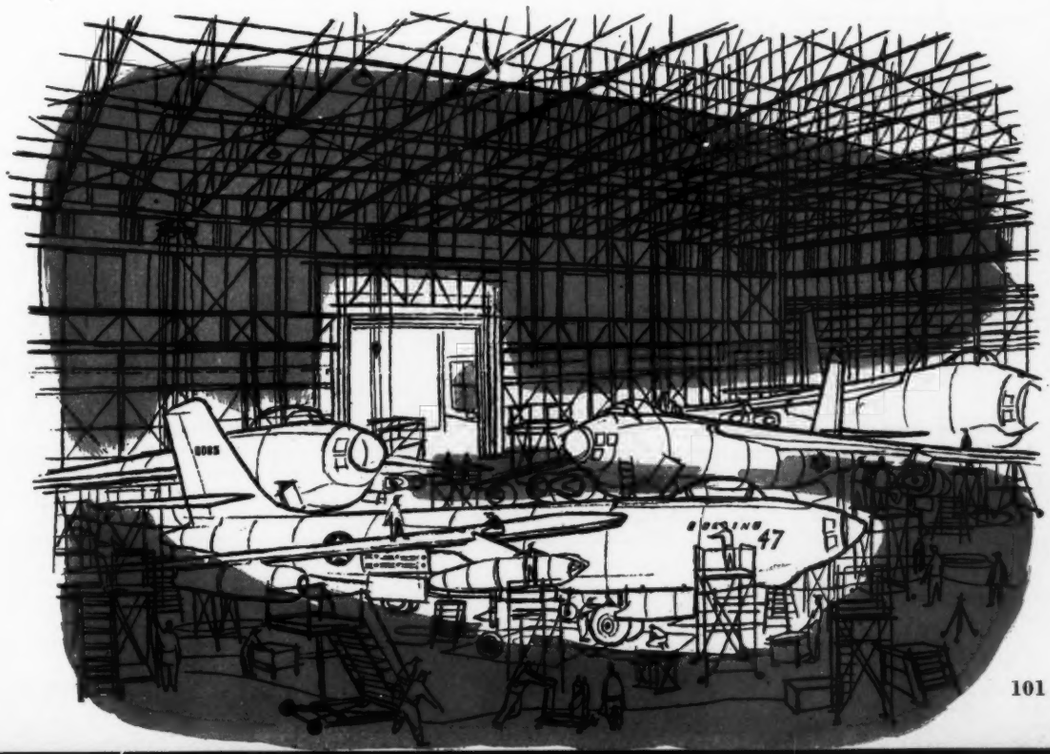
The structural system is a double row of large columns, each two columns supporting a huge truss which cantilevers to the front and to the rear. As the diagrams show, it is possible to service a large plane with either its nose or its tail projecting out of the hangar; the critical dimension, then, is something less than the length of the plane — the wing spread does not matter.

The double cantilever idea developed, of course, as wing spread grew increasingly long, making the arch-type hangar awkward and expensive. The spans were working up toward 300 ft, and there was also the problem of overlapping planes to get more than one in a hangar. Turning the span requirement sidewise promises, therefore, to be a bright idea.

It is not all quite so simple, however, for the swept-back wing arrived and accordingly increased the necessary depth of the cantilever. Early designs for the double-cantilever hangar put this dimension at 80 ft; now it is up to 92 ft. Truss designs are now in process for this 92-ft cantilever, with the central supporting columns 66 ft apart. The trusses must also support five-ton cranes which must operate almost to the end of the cantilever.

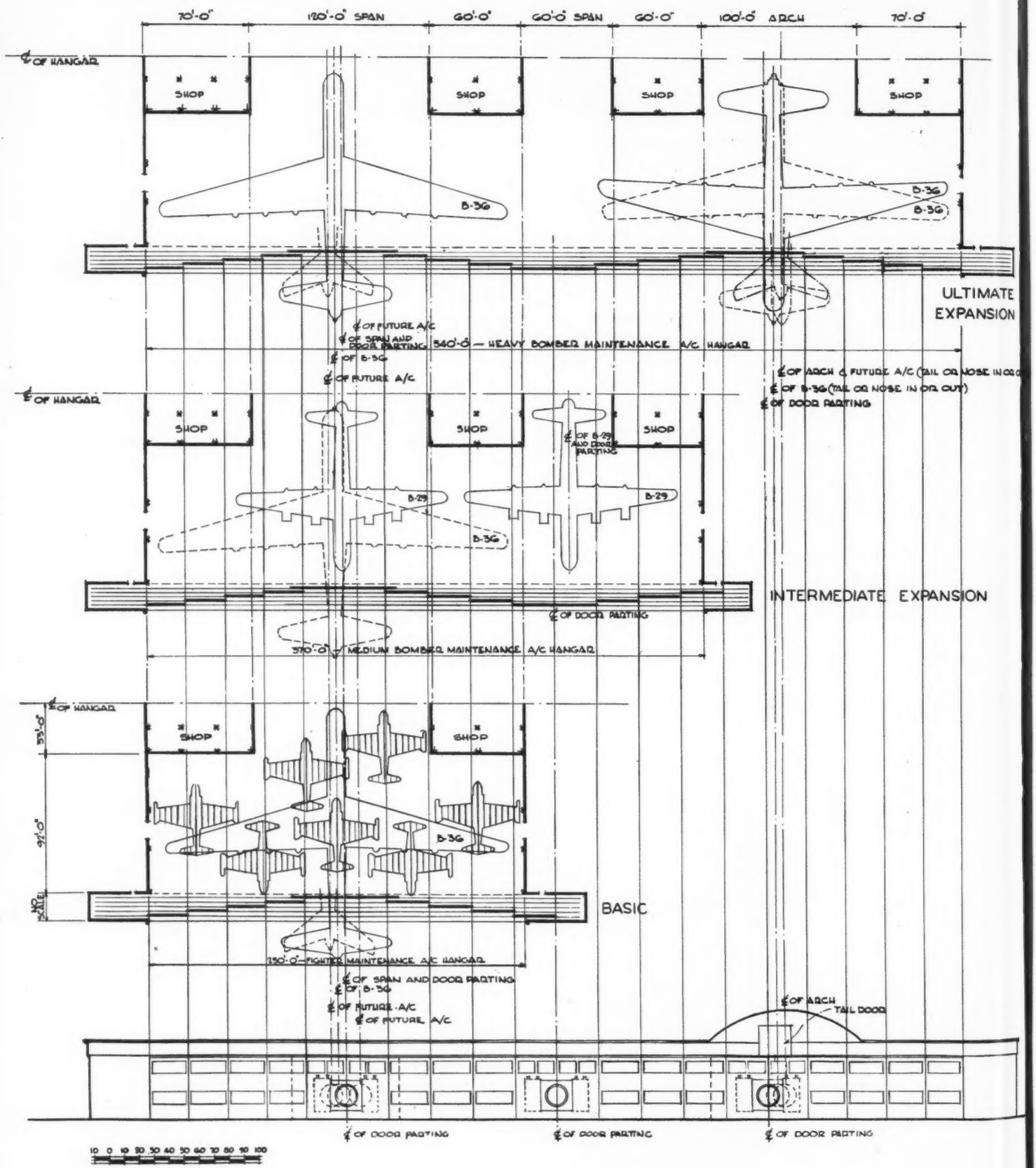
Early designs called for 40-ft-high doors (see section and elevation) with one higher bay for the tail section of large planes. New designs (now being developed by the Kaljian Corporation in an architect-engineer contract) indicate that it is just as economical to have 60-ft doors throughout, since the necessary depth of the truss is such as to permit that height almost automatically.

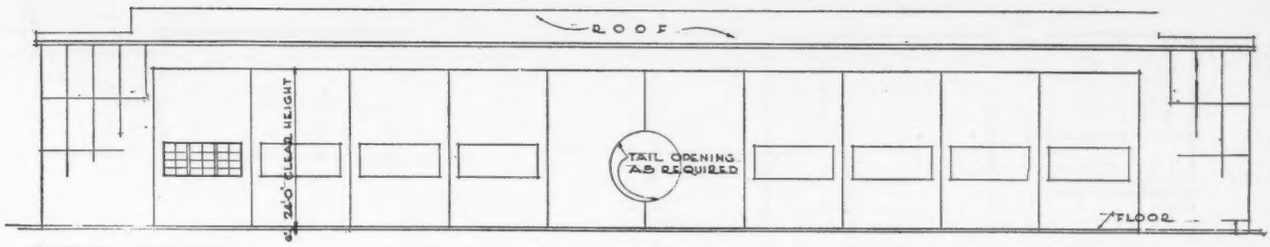
In such a hangar the shops come at the center, not strung out along the sides. Various shops come in square spaces, three stories high, between the columns. This arrangement, by the way, substantially shortens the distances over which heavy parts must be transported from plane to shop, and utilizes space that would be largely wasted in the old single-span hangars.



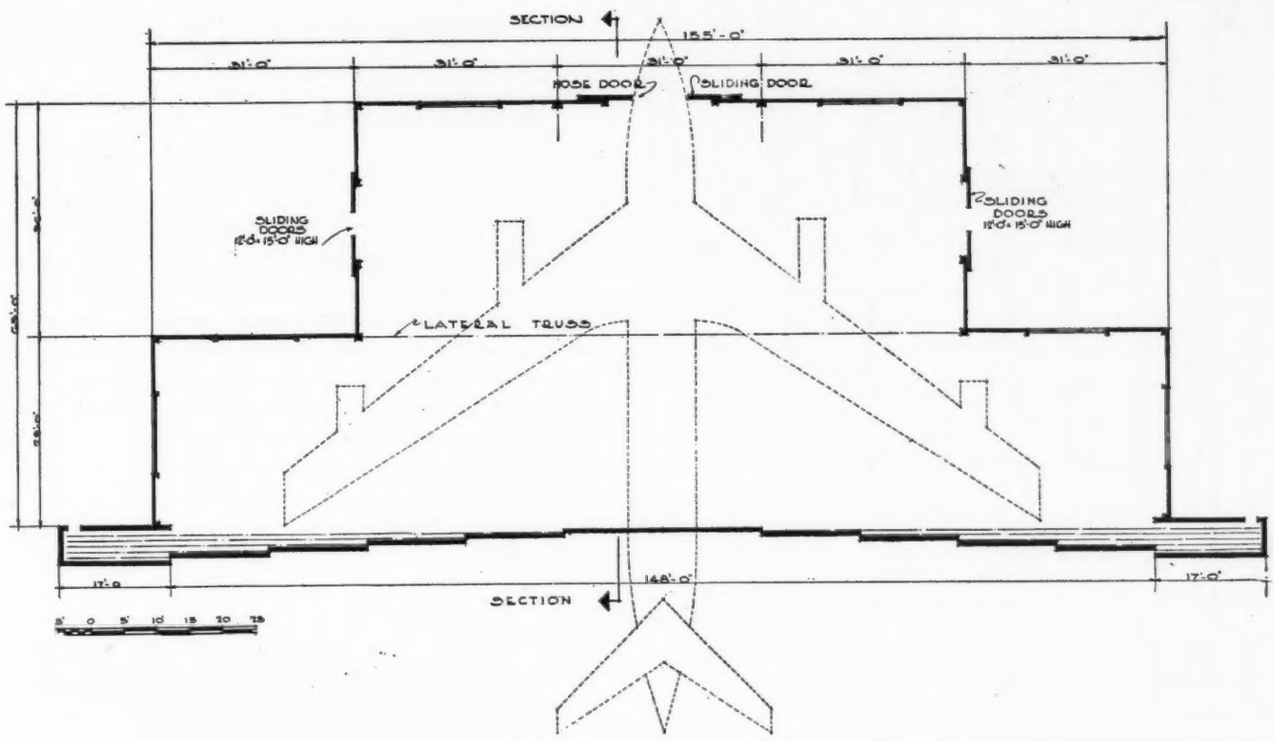
GROUND FLOOR PLAN

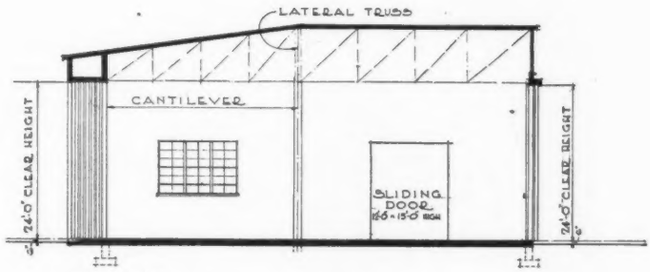
EXTENSIONS OF DOUBLE CANTILEVER HANGAR





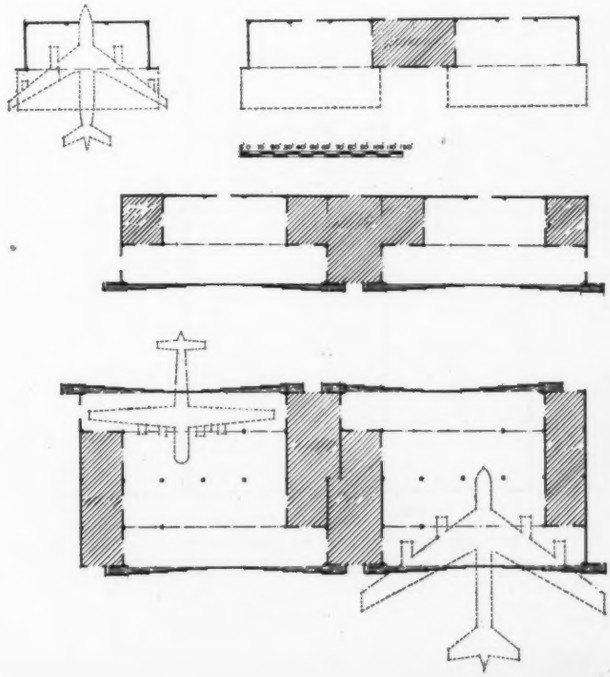
FRONT ELEVATION



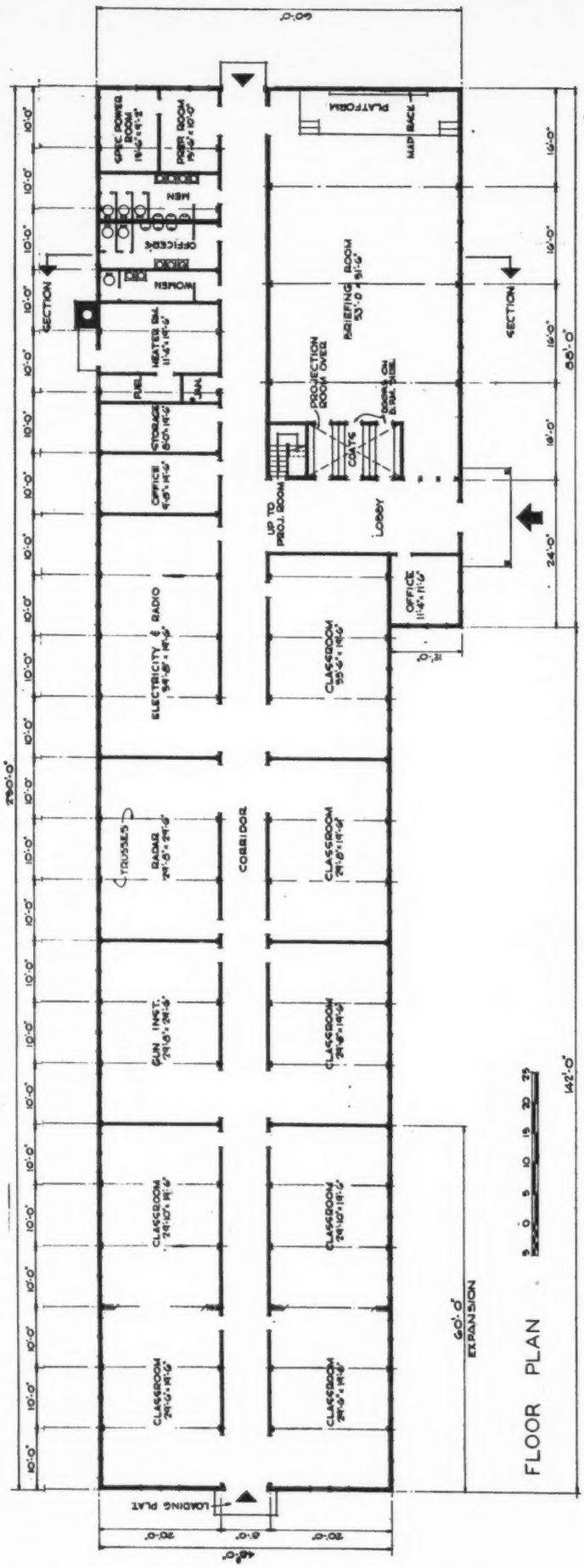


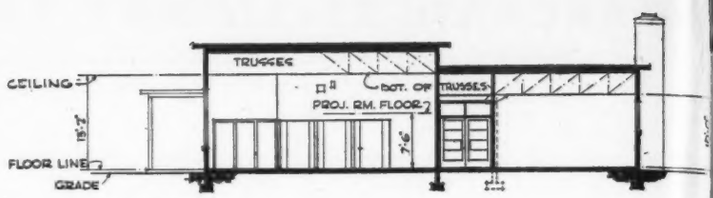
SECTION

NOSE HANGAR



AN OLD IDEA IN HANGARS for large planes appears here in new form. The large plan shows its simplest form, a sort of minimum hangar for the occasional large plane. Diagrams at the right show how the same general idea might be used in various combinations, with shop areas included, for different types of planes. All of these assume that the whole plane need not be in the hangar. Canvas drops are used in many.





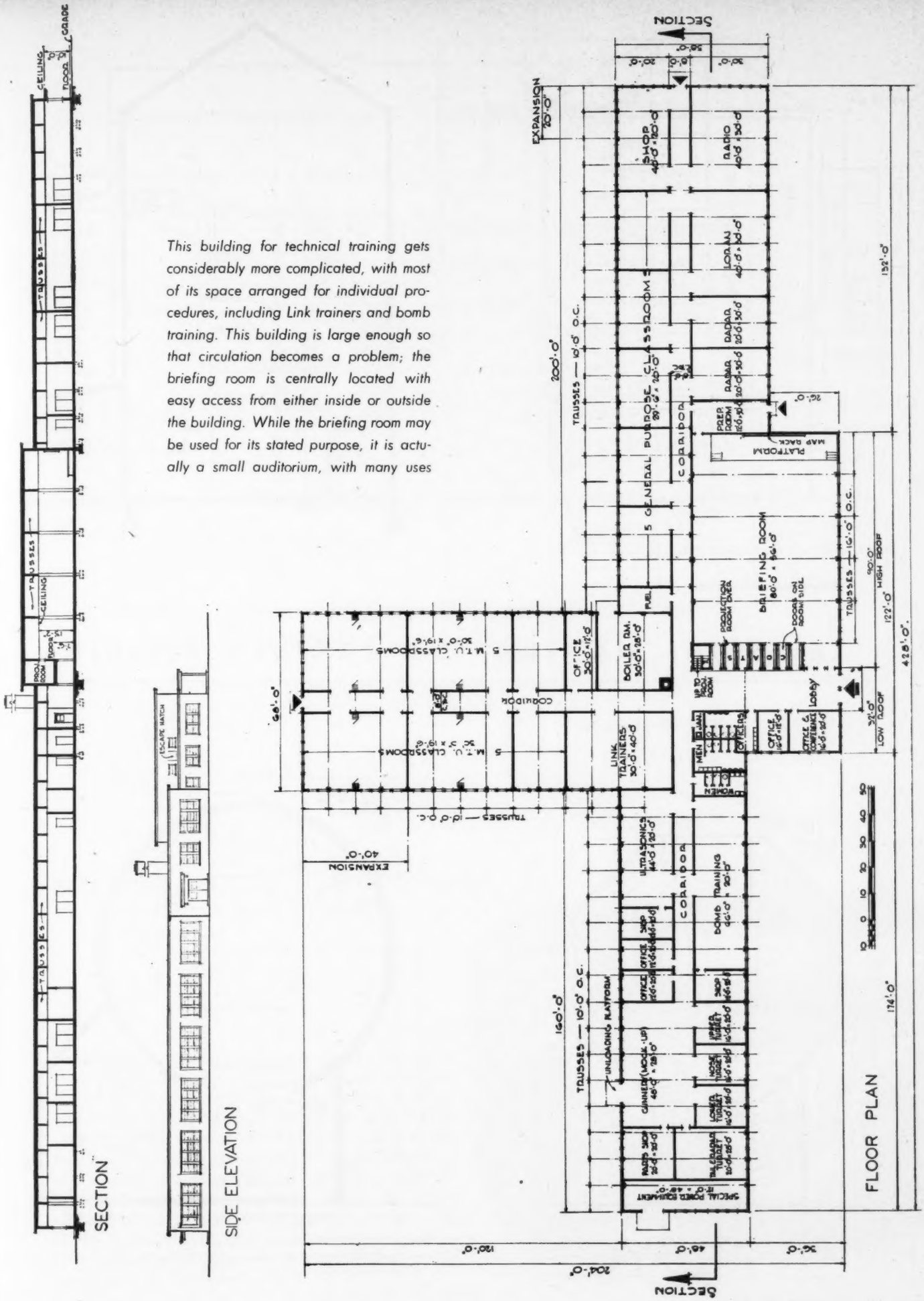
SECTION

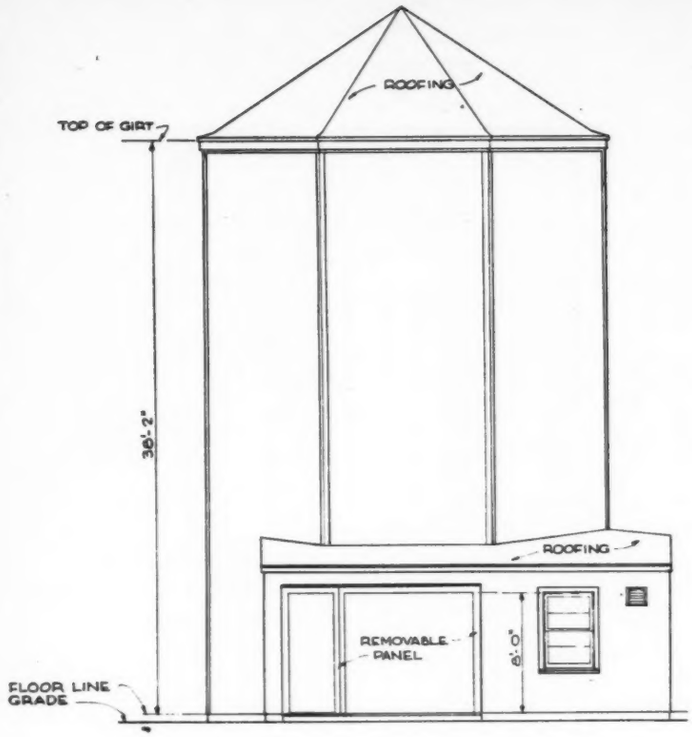
TECHNICAL TRAINING BUILDINGS

IN THE AIR FORCE TECHNICAL TRAINING is perhaps the major activity from the standpoint of hours spent. Naturally then training buildings occur everywhere, in wide variety. The one shown on this page is one of the smaller ones, with more or less standard classrooms, plus one typical briefing room. A few classrooms are specially equipped for gun instruction, radio, radar. As the technical training buildings get larger more spaces are specially planned and equipped. Some, for such highly technical procedures as celestial navigation training, or flight simulators, get rather involved as to design.

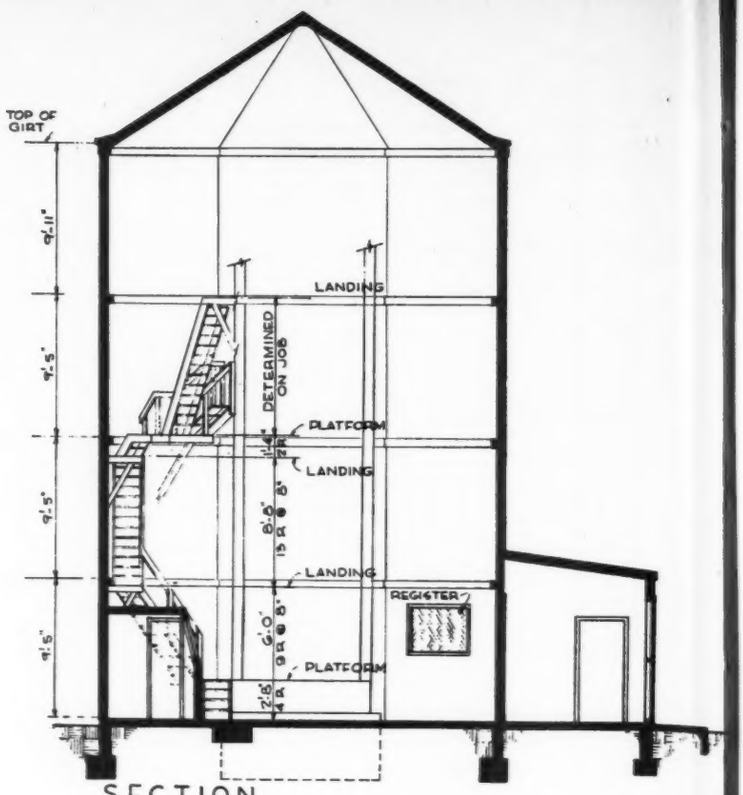


This building for technical training gets considerably more complicated, with most of its space arranged for individual procedures, including Link trainers and bomb training. This building is large enough so that circulation becomes a problem; the briefing room is centrally located with easy access from either inside or outside the building. While the briefing room may be used for its stated purpose, it is actually a small auditorium, with many uses



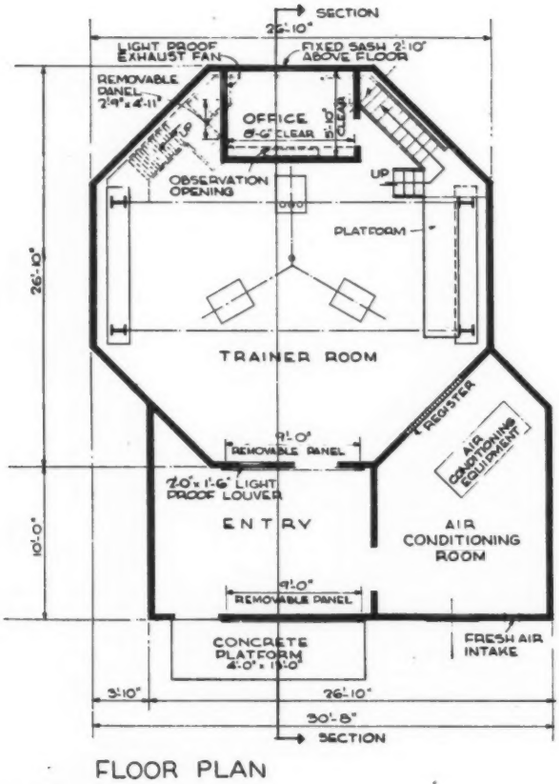


FRONT ELEVATION

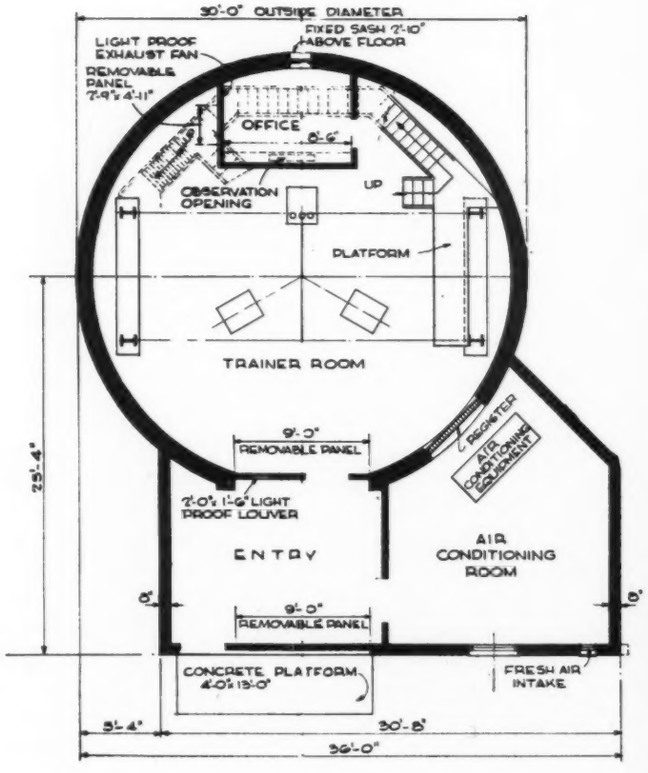


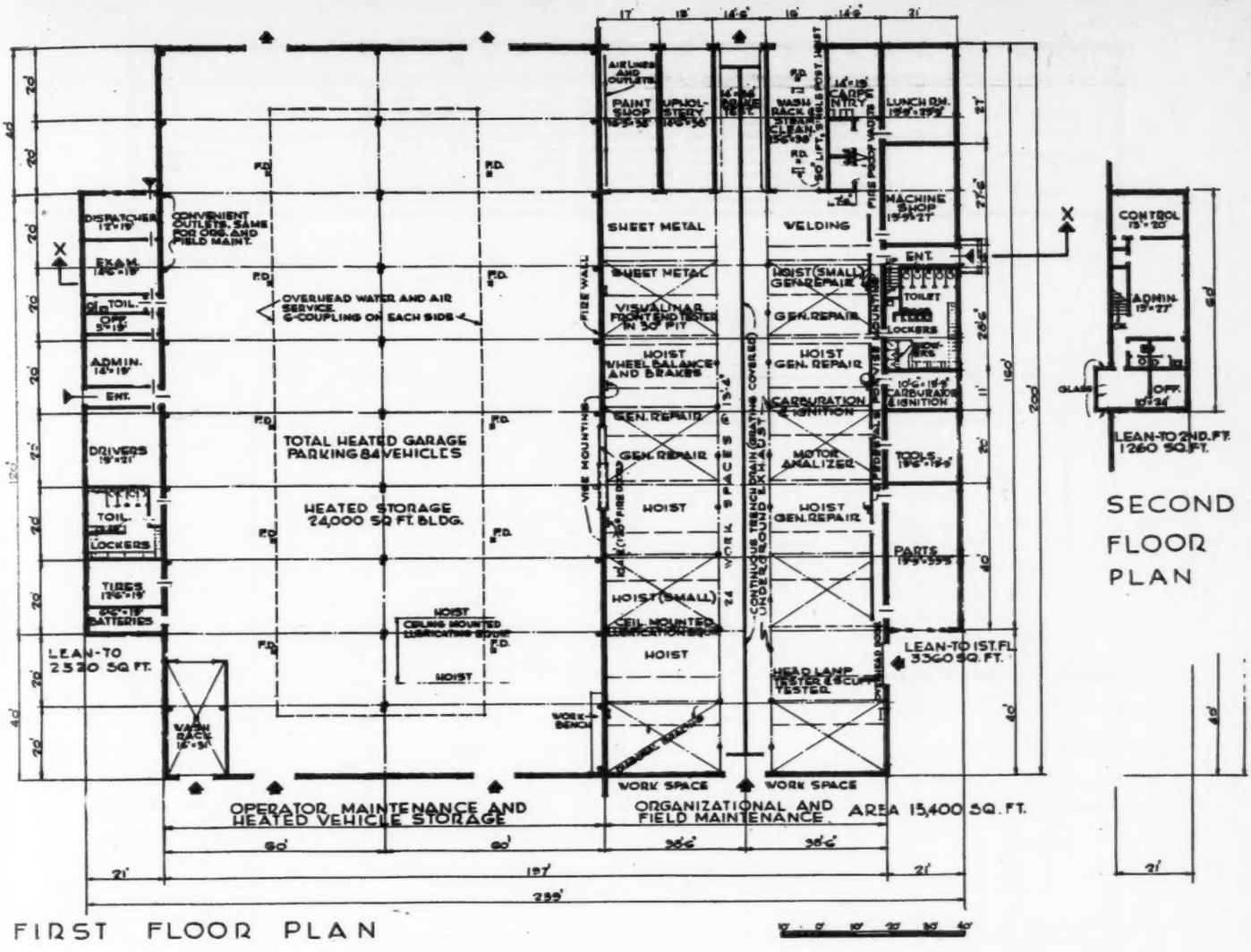
SECTION

CELESTIAL NAVIGATION TRAINER BUILDING

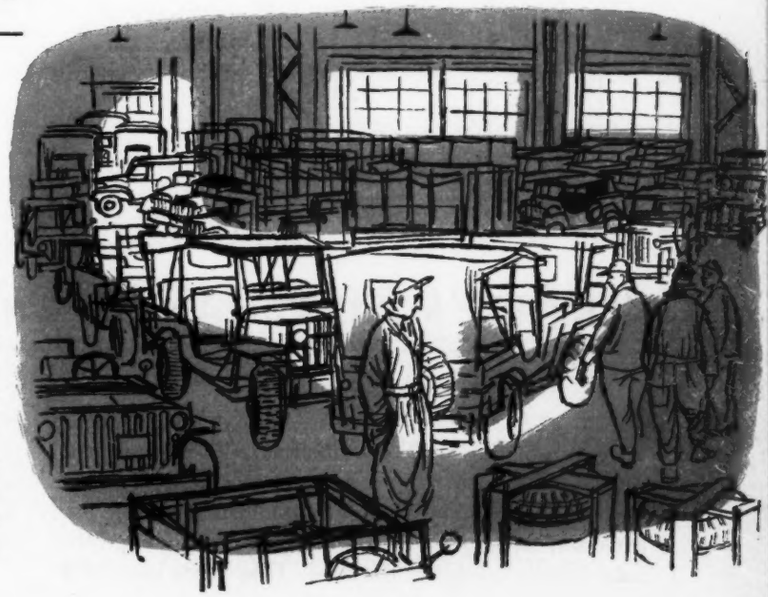


FLOOR PLAN

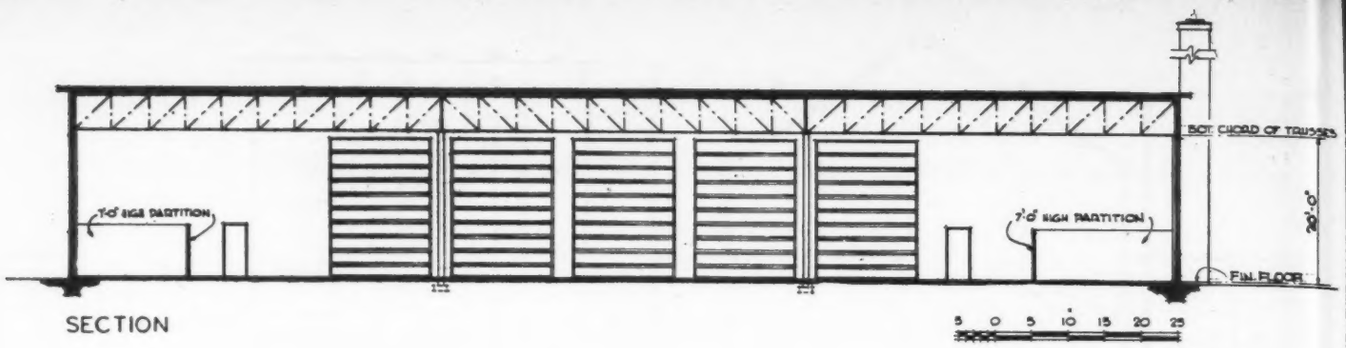


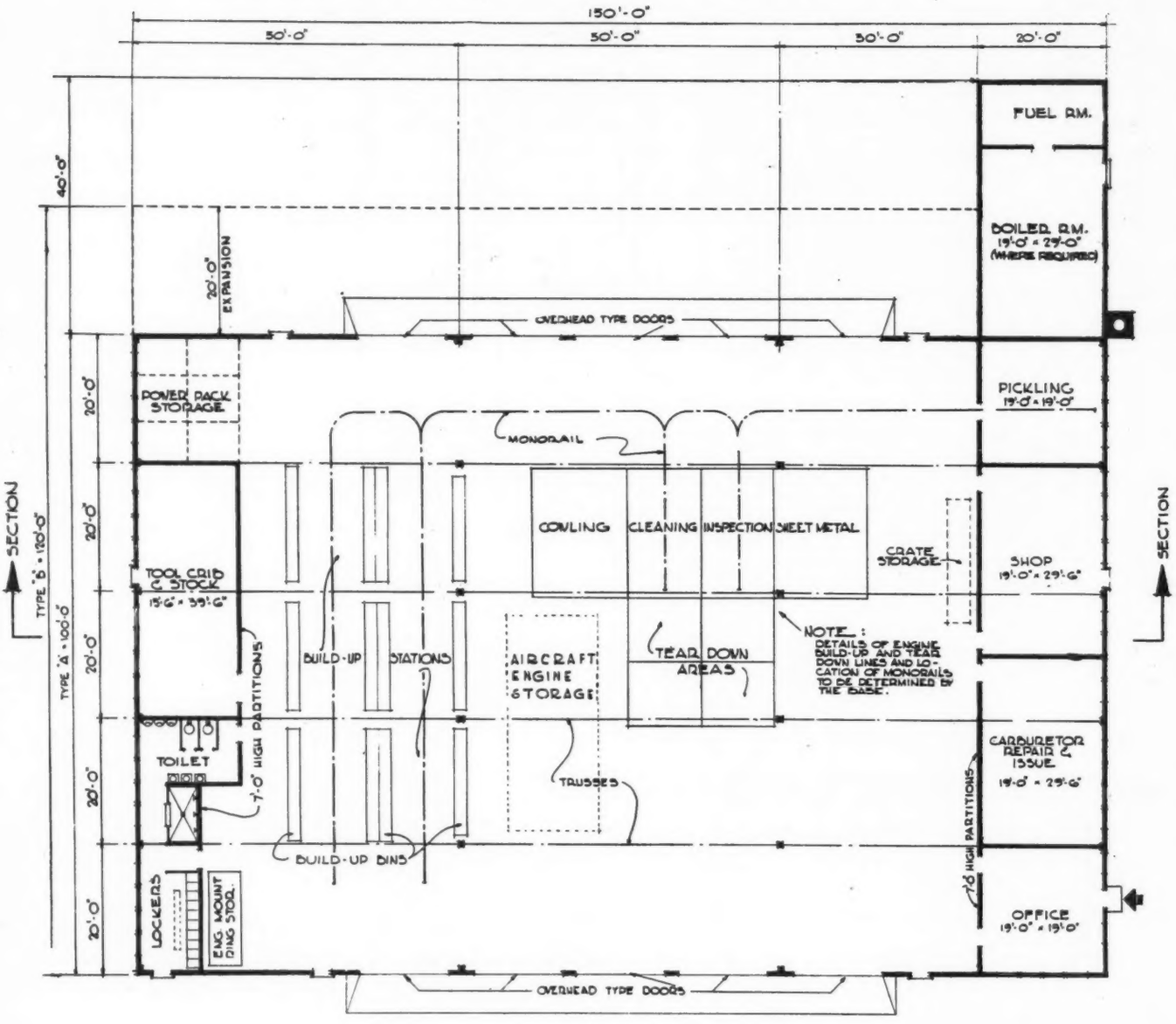


MOTOR POOL BUILDINGS



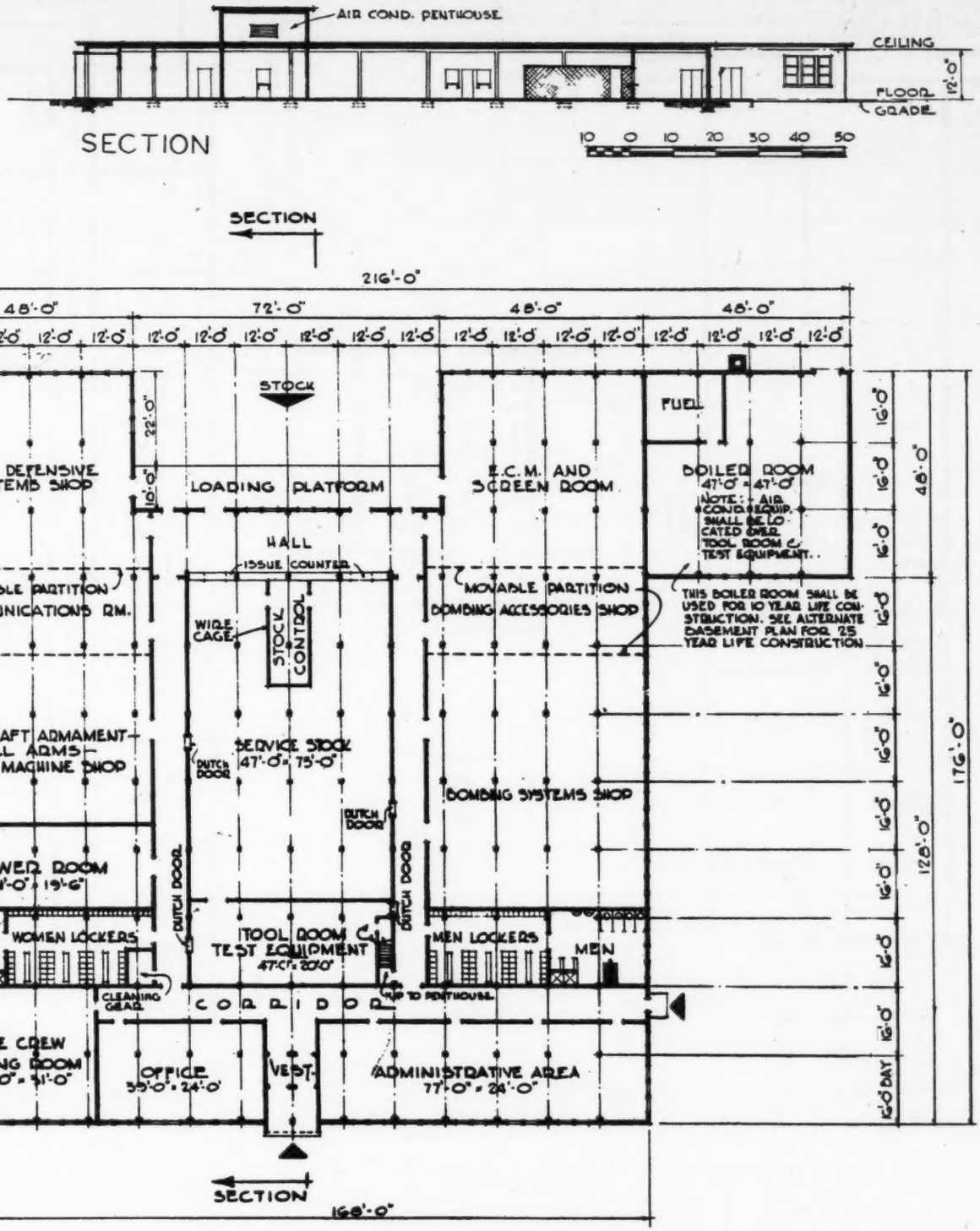
SINCE THE AIR FORCE uses ground vehicles just about as much as planes, the familiar service garage is seen everywhere. And since the Air Force is used to maintenance on a scientific basis, it plans buildings for similar care of vehicles. The one shown is the standard service building and parking garage. This particular plan is for cold climates, where various cars and trucks must be kept reasonably warm. In a warm climate the layout would be about the same, but the parking portion would merely be roofed over, or even left as an open parking lot. The service portion would remain the same, for full automotive maintenance.





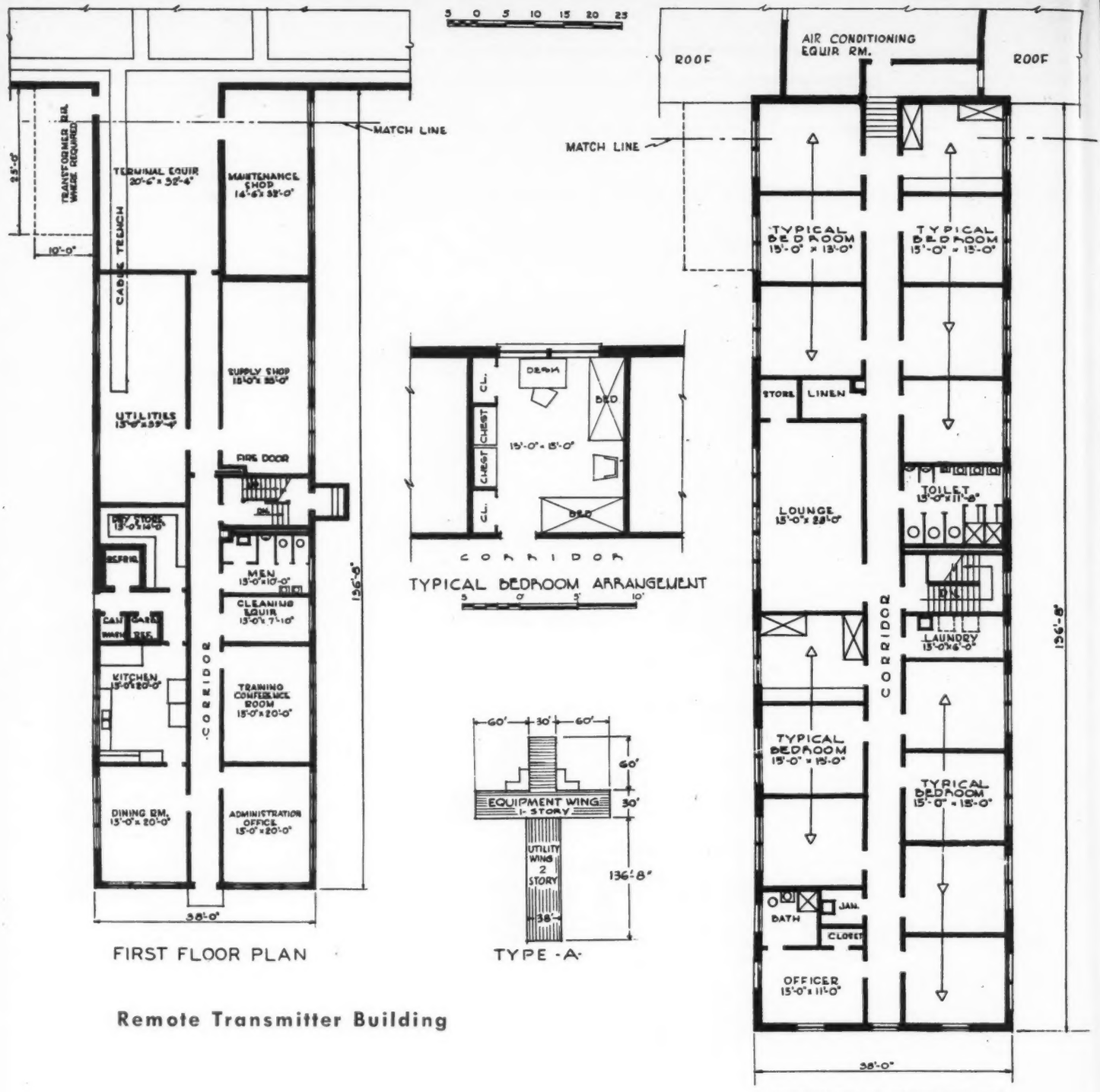
AIRCRAFT MAINTENANCE—ENGINE BUILD-UP BUILDING

AIRCRAFT MAINTENANCE becomes a highly complicated procedure in the Air Force, including everything from routine tune-up to tear-down and rebuilding. Simpler conditioning is done by flight squadrons on their own fields, but for major overhauls the planes would go to a maintenance group for the base. Thus there is a difference between a maintenance hangar, which handles a wide variety of tasks, and a central group consisting of four principal buildings: Fabrication, Engine Build-up, Armament and Electronics and Parachute and Dinghy Shop. The Engine Build-up building, shown here, is not a hangar, but a complete shop for rebuilding engines.



ARMAMENT AND ELECTRONICS BUILDING

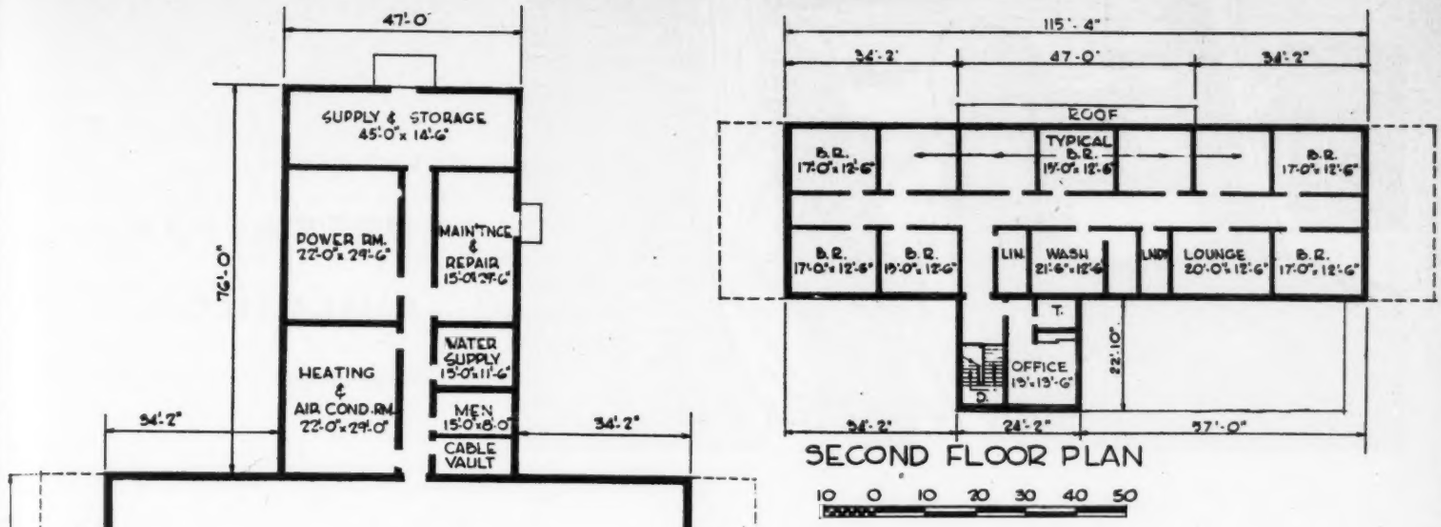
ANYBODY who has ever been to the movies knows that military planes are loaded down with the most glamorous and complicated electronic equipment, guns, bombsights, and other wonderful secrets. All of it has to be serviced, and this is the standard building for that. Again it is not a hangar, but a fairly simple shops building with various arrangements of spaces in 12-ft modules for small-equipment repairs. The work here would be done on equipment taken out of planes, but a line crew is kept here for service calls to various hangars for such checking and repairs as could be done in place, or for removing the equipment from planes for later servicing.



Remote Transmitter Building

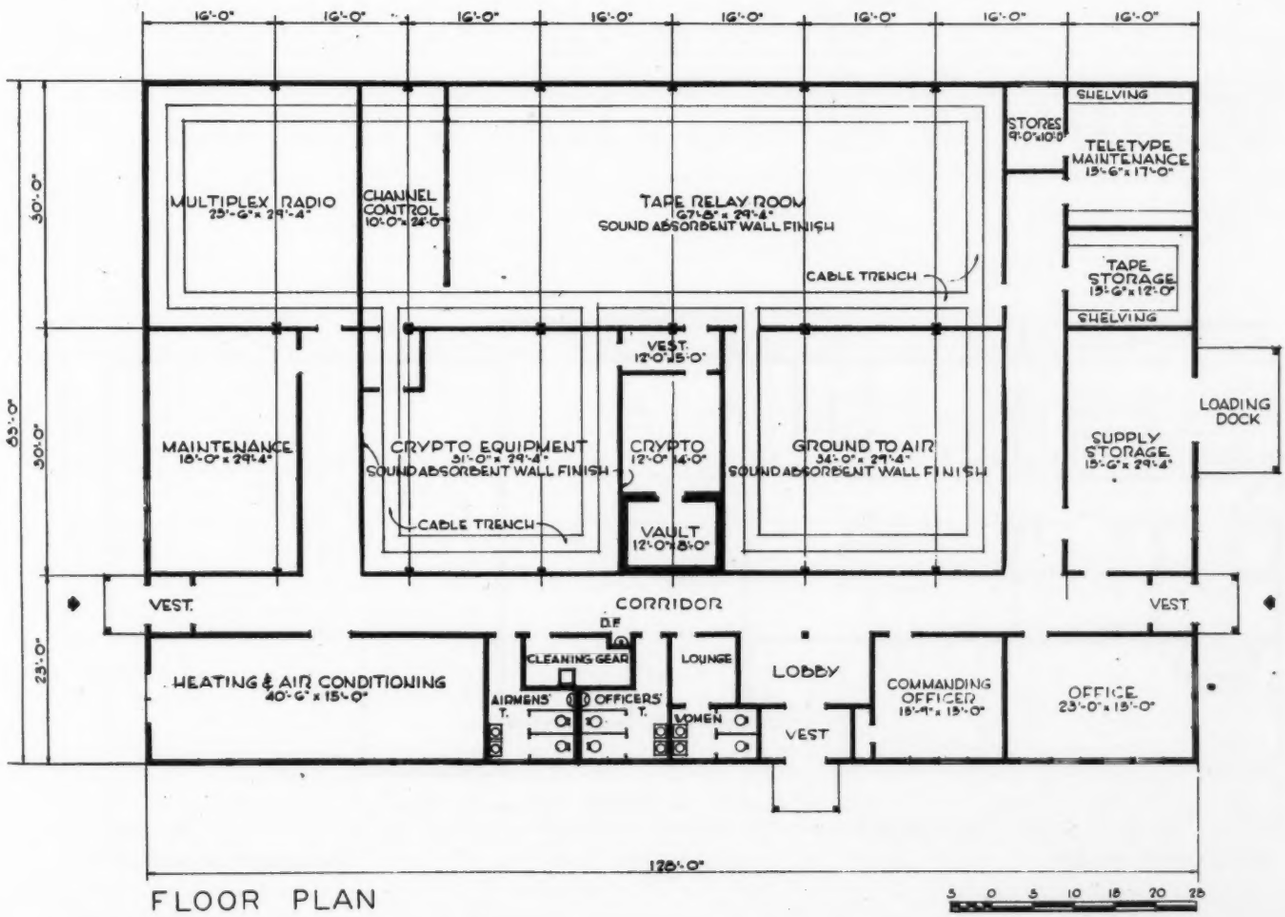
COMMUNICATIONS BUILDINGS

COMMUNICATIONS MAKES UP another category of highly specialized buildings for the Air Force. There are three general classifications: Receiving, Transmitter and Communications Center. The equipment wings call for no comment here; they are full of esoteric and classified equipment which can be left to the Air Force personnel. The Communications Center (opposite page) is a strictly equipment building, simple in design and construction, with 16 by 30 ft bays for economy. The other two types (Transmitter above; Receiving Building opposite page above) are different in that they must also house the operating personnel. So they have bedrooms, lounges, kitchen and dining rooms. There are variations on the basic schemes shown.



Remote Receiving Building

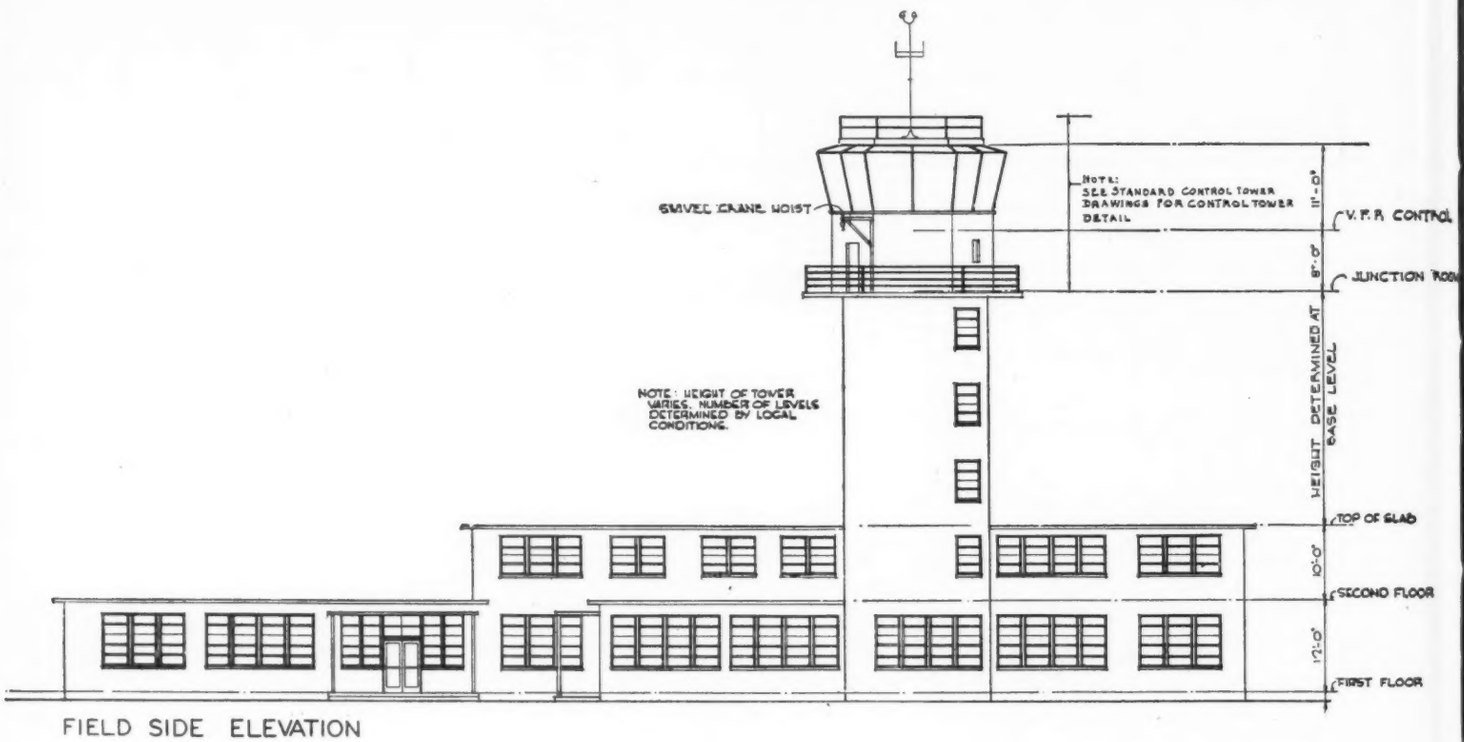
Communications Center



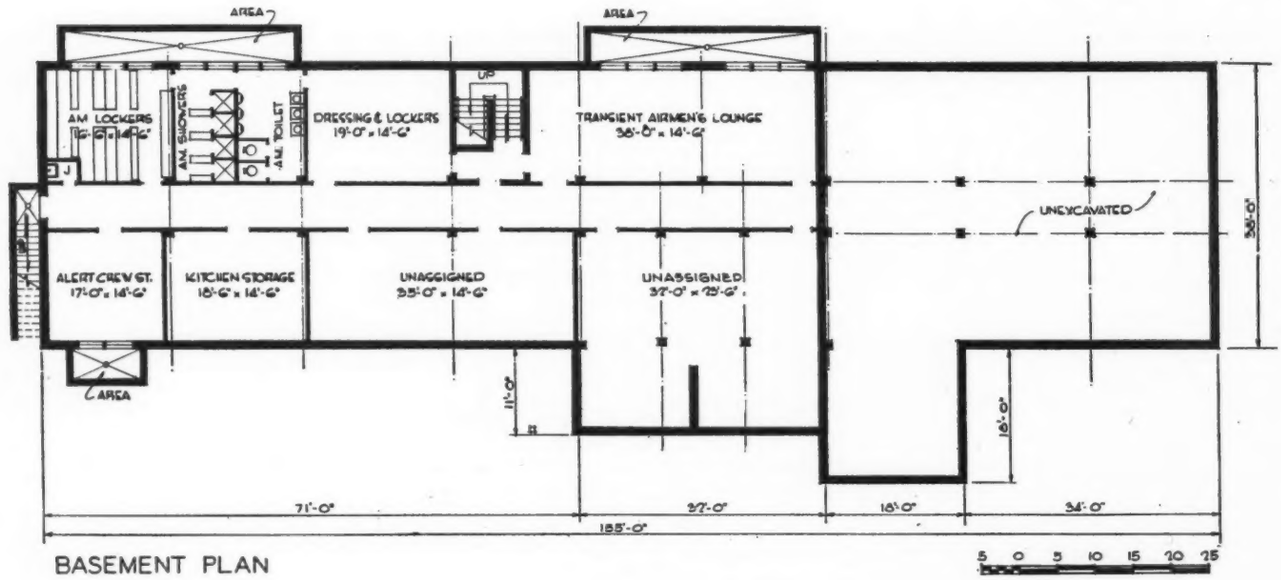
FLOOR PLAN



OPERATIONS BUILDINGS

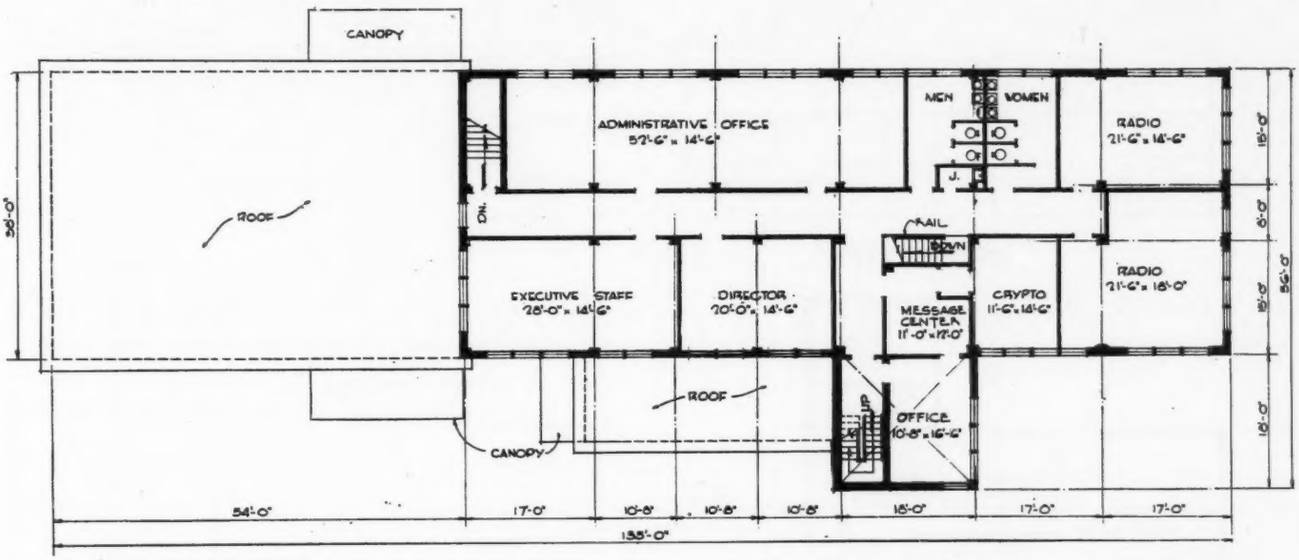


FIELD SIDE ELEVATION

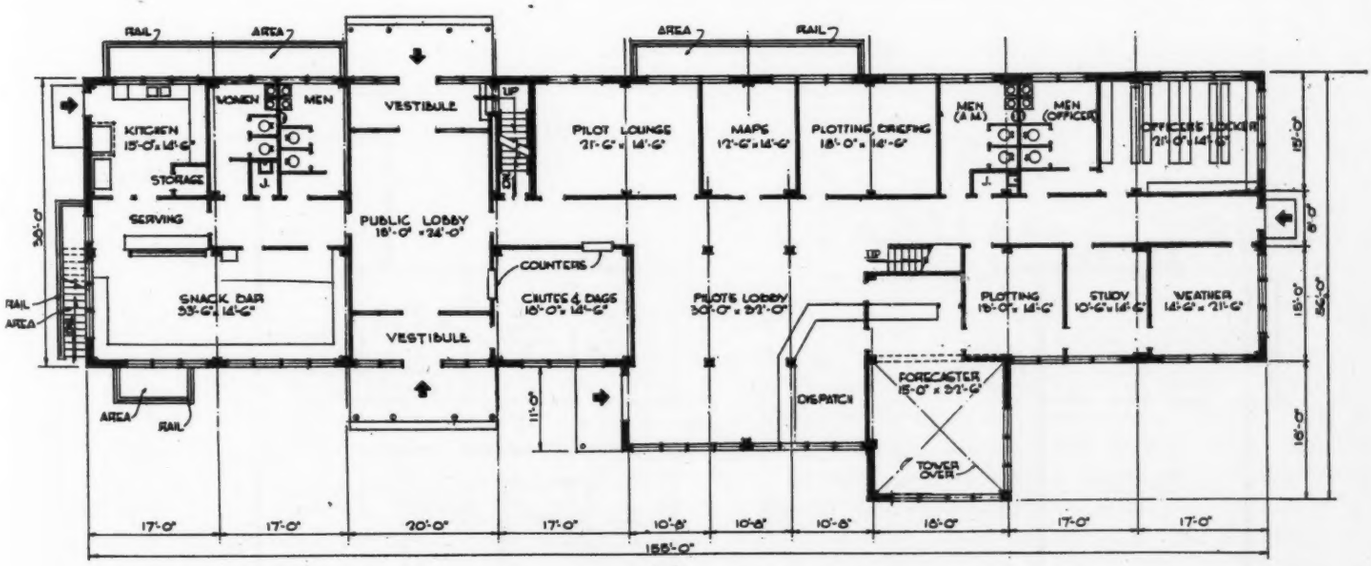


BASEMENT PLAN

THE OPERATIONS BUILDING of an air base corresponds to the terminal building of a civilian airport. It has the control tower, from which is controlled all of the flying to and from the field, just as in an ordinary airport. Aside from the flying control center, however, the operations building is virtually apart from the rest of the base, having virtually no other function in the base operation. It does, however, serve virtually all functions for flights and personnel in transit. This might involve anything from the visit of some brass on tour to considerable operational flights from other bases. The plans themselves give a good summation of the several functions this building serves for its visitors; notice the briefing room, again for personnel not normally assigned to the base. Like other buildings, operations buildings are large or small depending on local conditions. This is a fairly large one; a smaller type is shown on page 114.



SECOND FLOOR PLAN

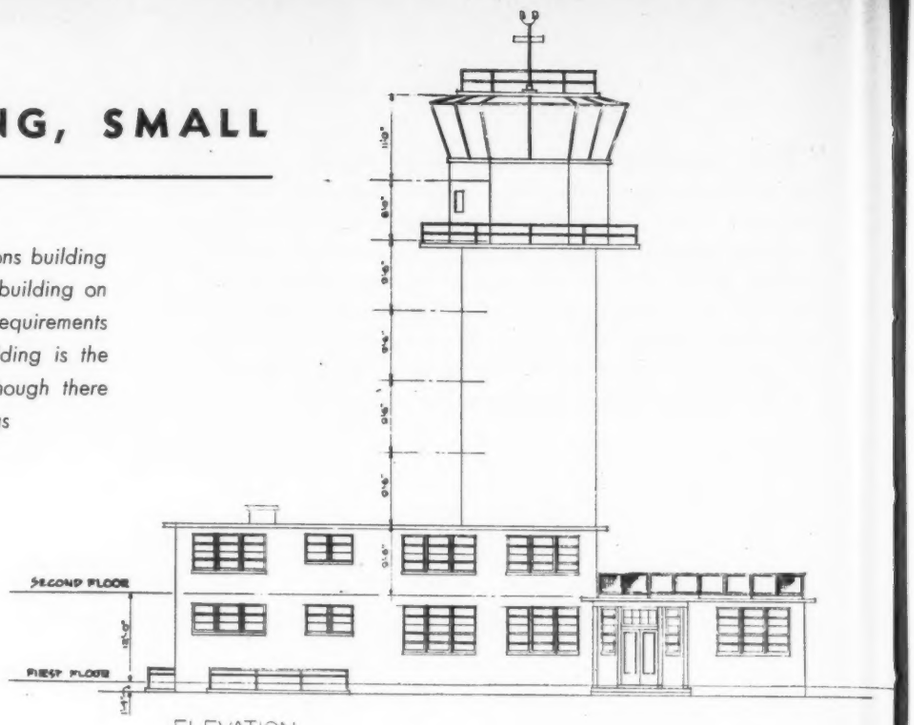


FIRST FLOOR PLAN

FIELD SIDE ELEVATION

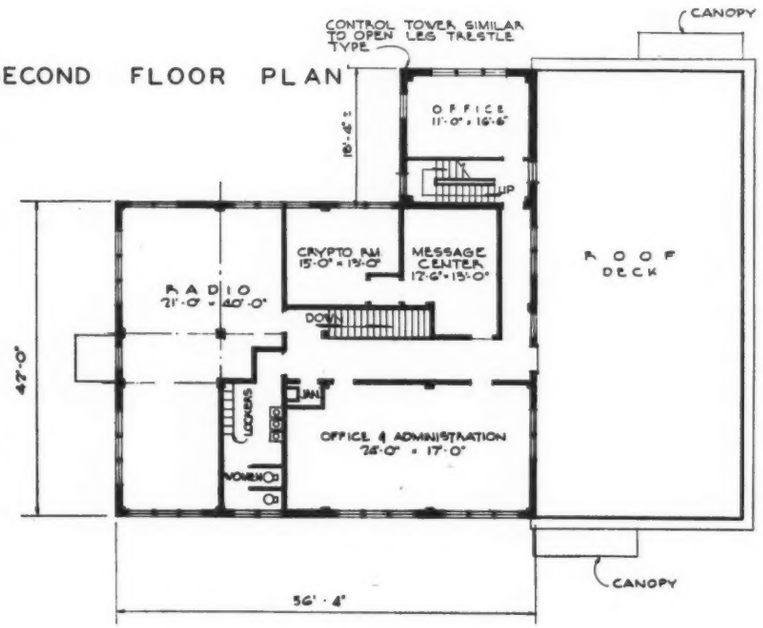
OPERATIONS BUILDING, SMALL

At a small field the functions of the operations building are in general those of the corresponding building on a large base, but cut down in space requirements much as in a small civilian port. This building is the smallest one to require a control tower, though there is a still smaller one in the definitive drawings

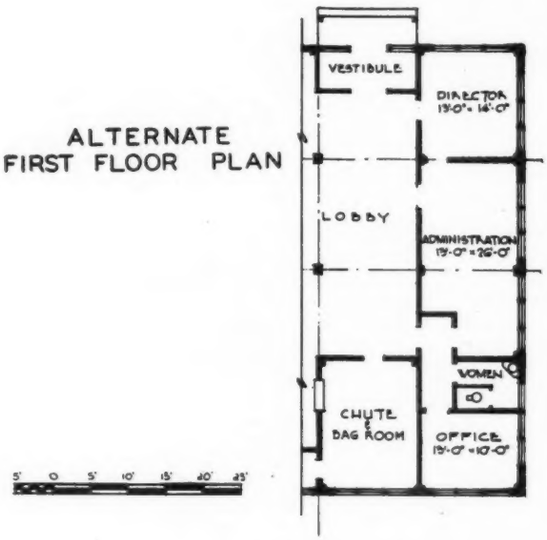


ELEVATION

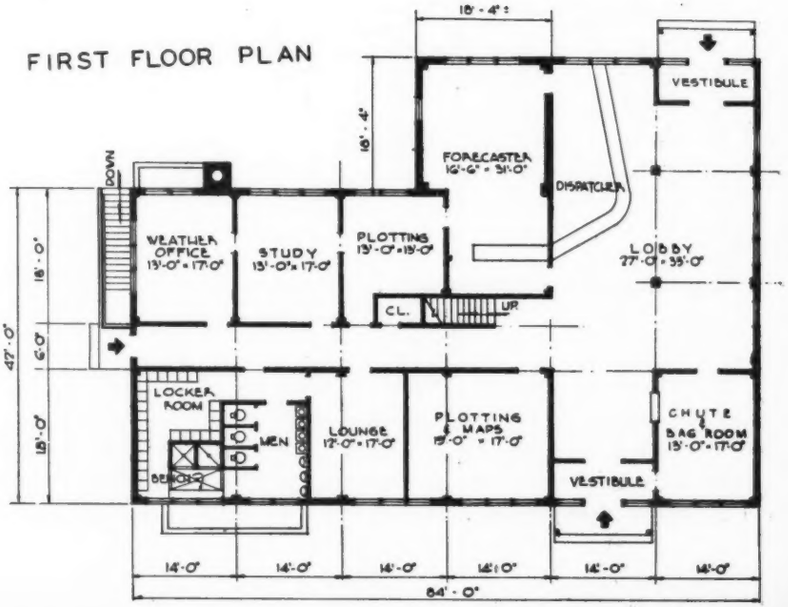
SECOND FLOOR PLAN

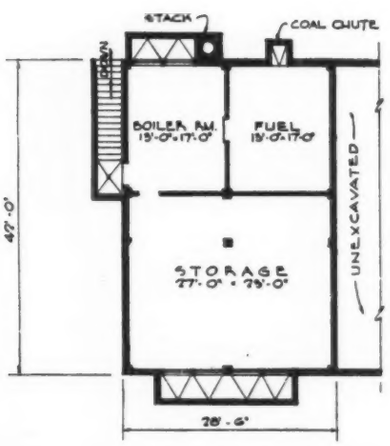


ALTERNATE FIRST FLOOR PLAN

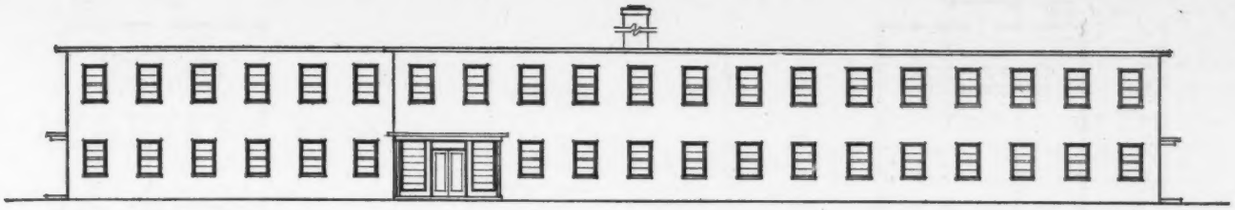


FIRST FLOOR PLAN

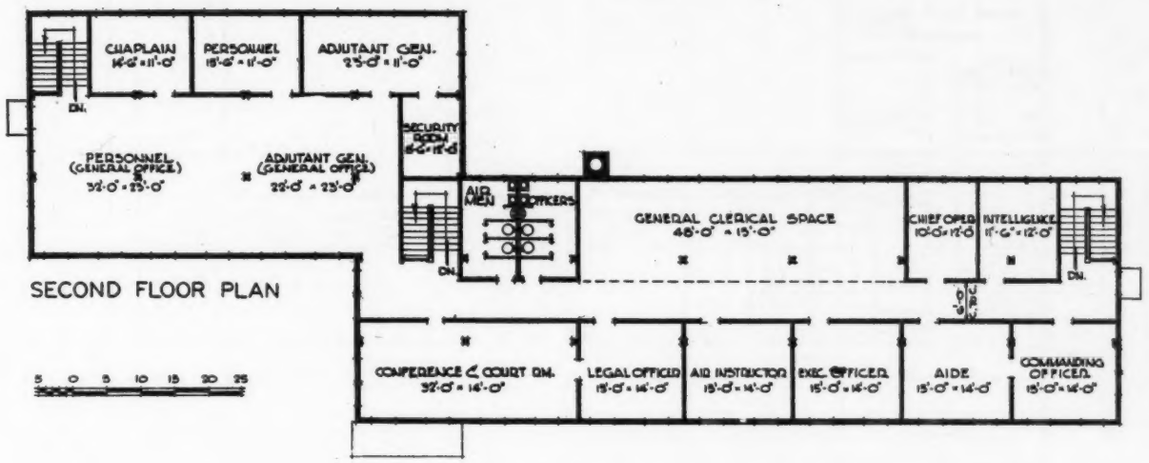




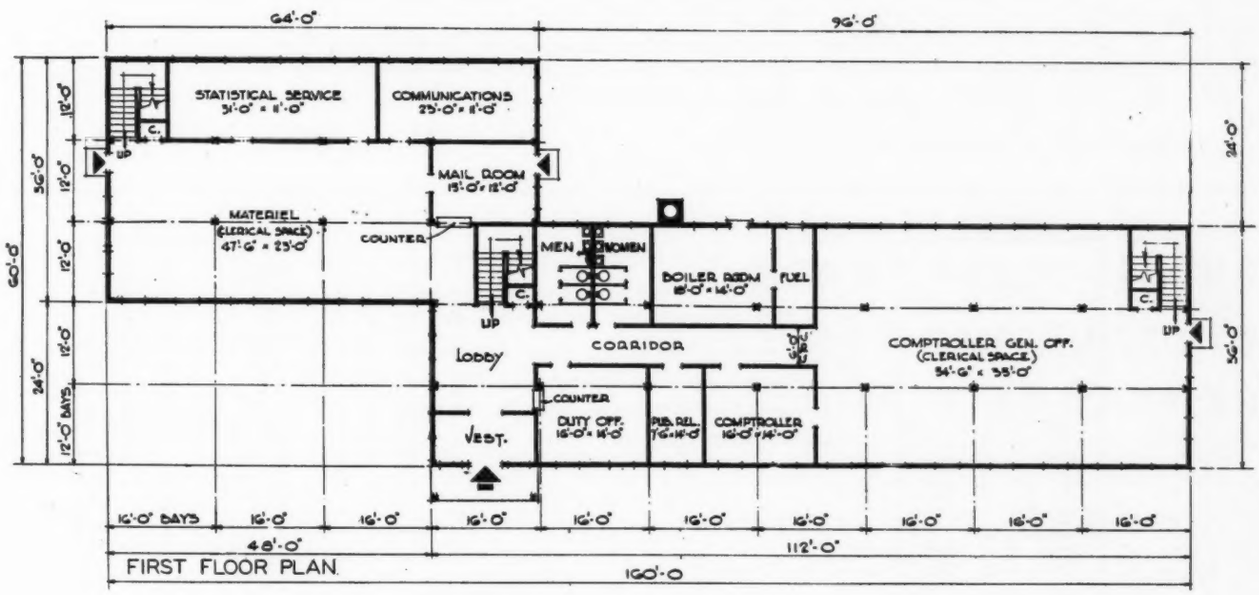
BASEMENT PLAN



FRONT ELEVATION



SECOND FLOOR PLAN

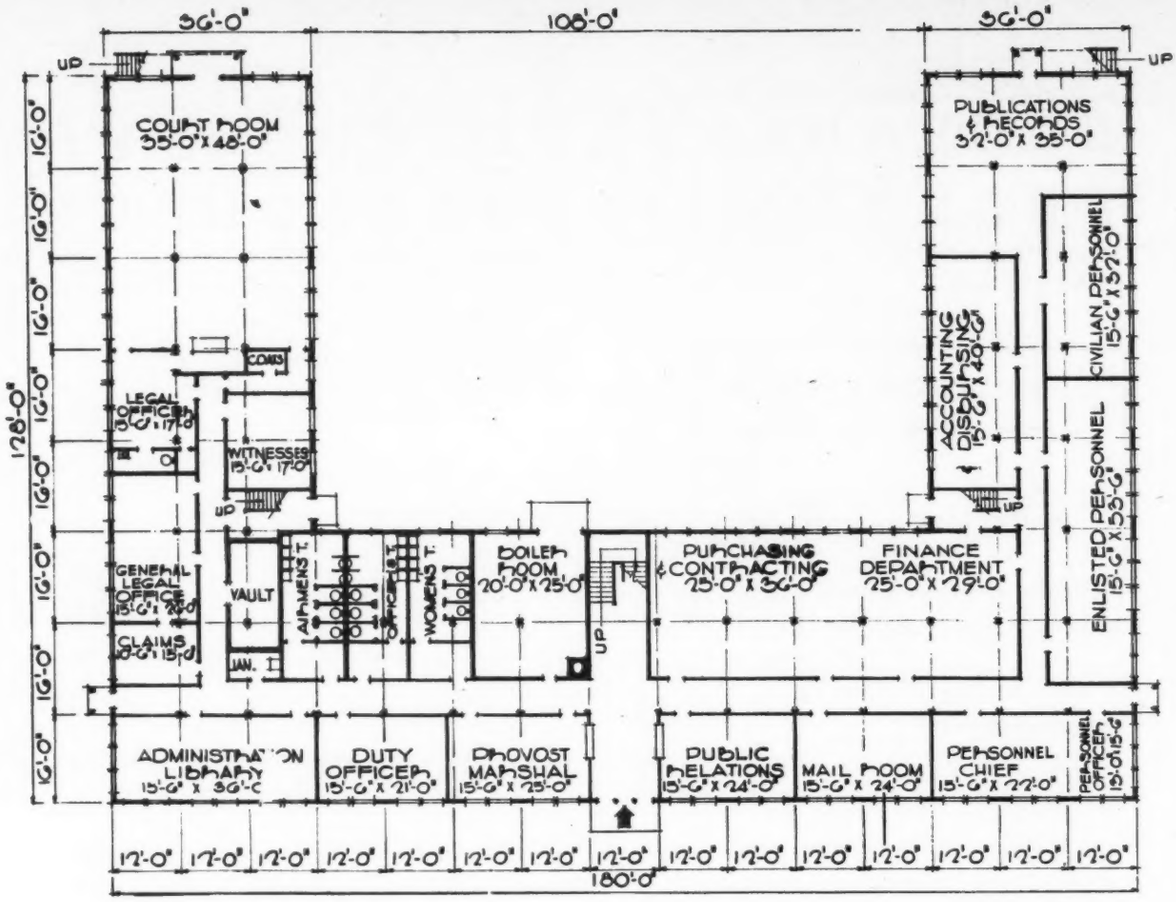


FIRST FLOOR PLAN

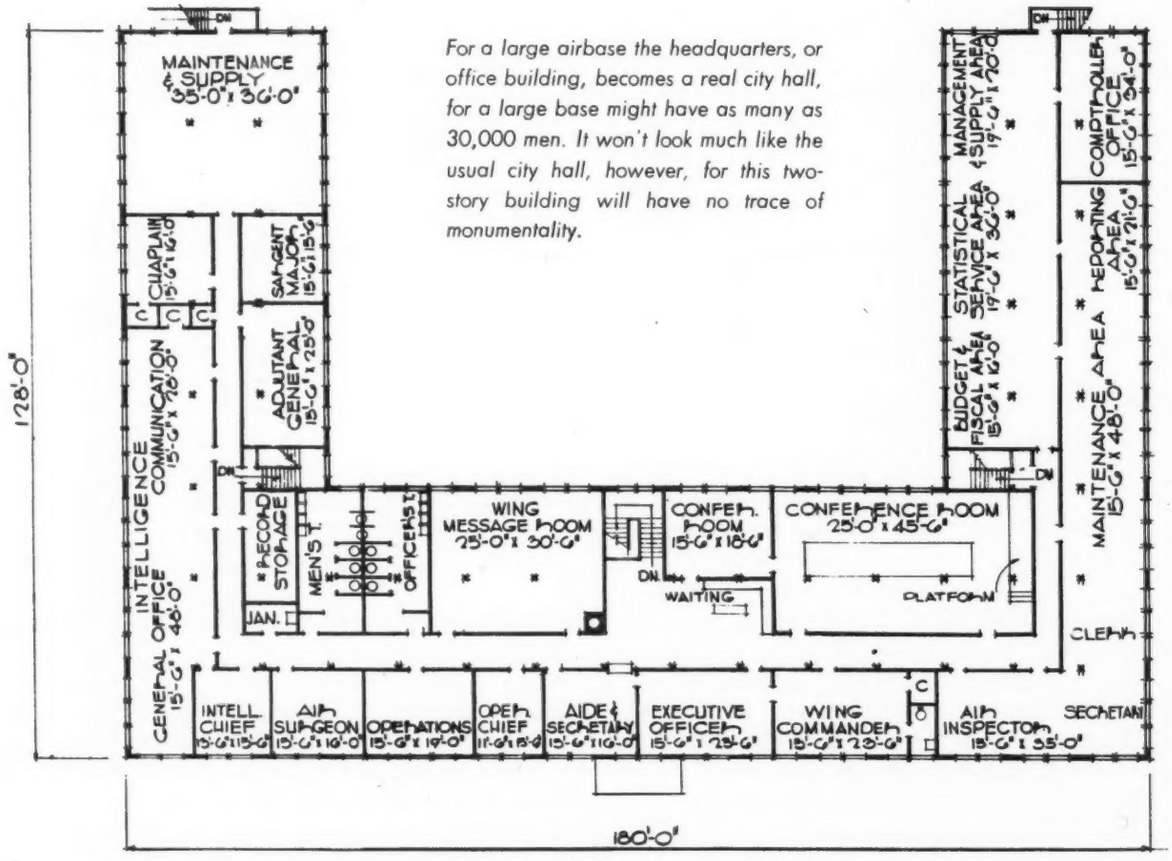
HEADQUARTERS BUILDING

THE HEADQUARTERS BUILDING of an Air Force base is its office building. Its planning problems are quite similar to those of designing any office building for an individual client, and the building will be simple and small, or large and involved, as any other office building might. It is not, however, like an industrial office building, in that this is the headquarters only of the base commander and his staff, who operate the base as such. They may have little to do with flight operations from the base, or training or what not, which would be under squadron or group commanders. There would, then, be other places where office space would be used.

In general, however, this is office use, including in its general requirements the purchasing, public relations, accounting, legal, statistical and other like functions. The building here shown is one of the smaller ones.



FIRST FLOOR PLAN

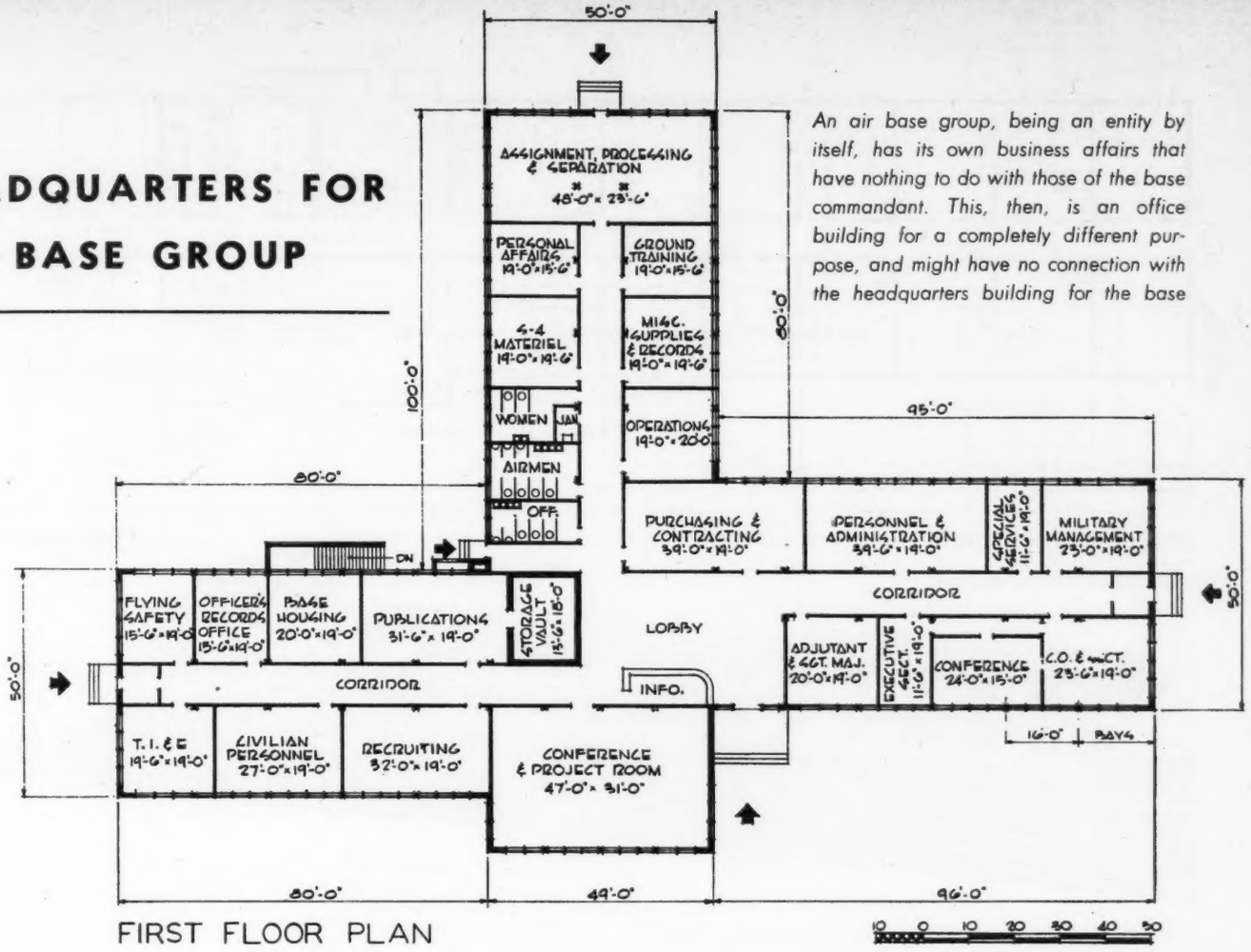


For a large airbase the headquarters, or office building, becomes a real city hall, for a large base might have as many as 30,000 men. It won't look much like the usual city hall, however, for this two-story building will have no trace of monumentality.

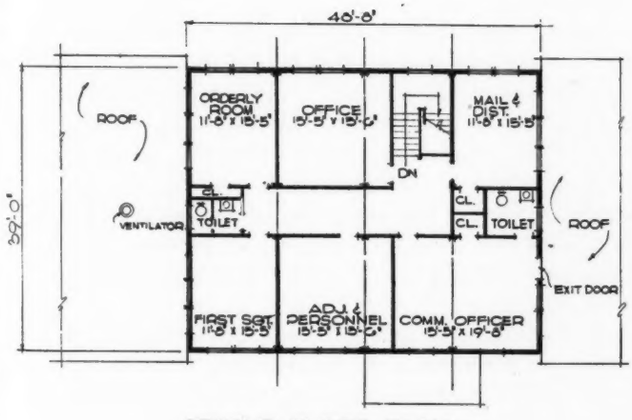
SECOND FLOOR PLAN

HEADQUARTERS FOR AIR BASE GROUP

An air base group, being an entity by itself, has its own business affairs that have nothing to do with those of the base commandant. This, then, is an office building for a completely different purpose, and might have no connection with the headquarters building for the base



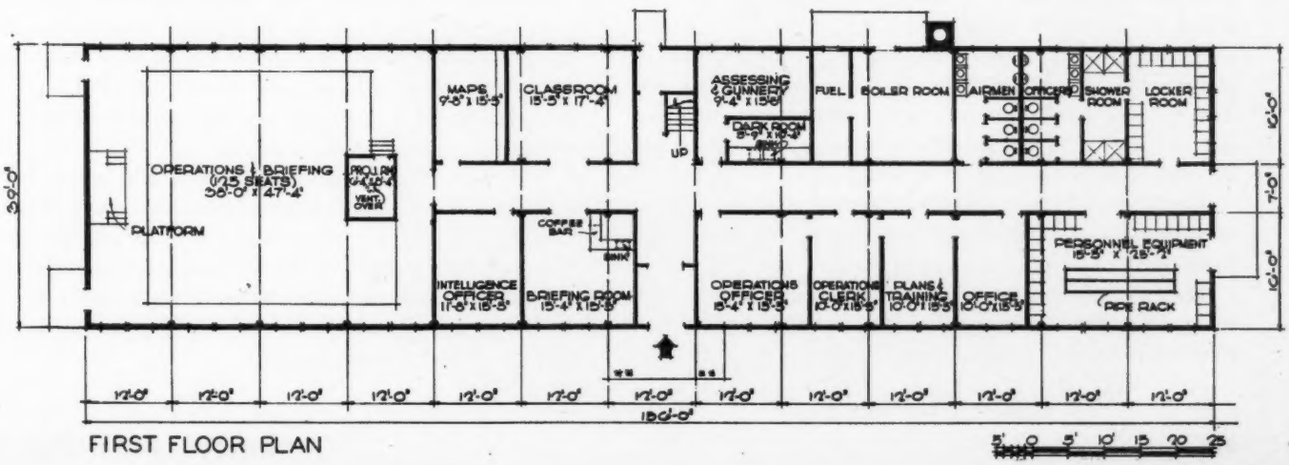
FIRST FLOOR PLAN



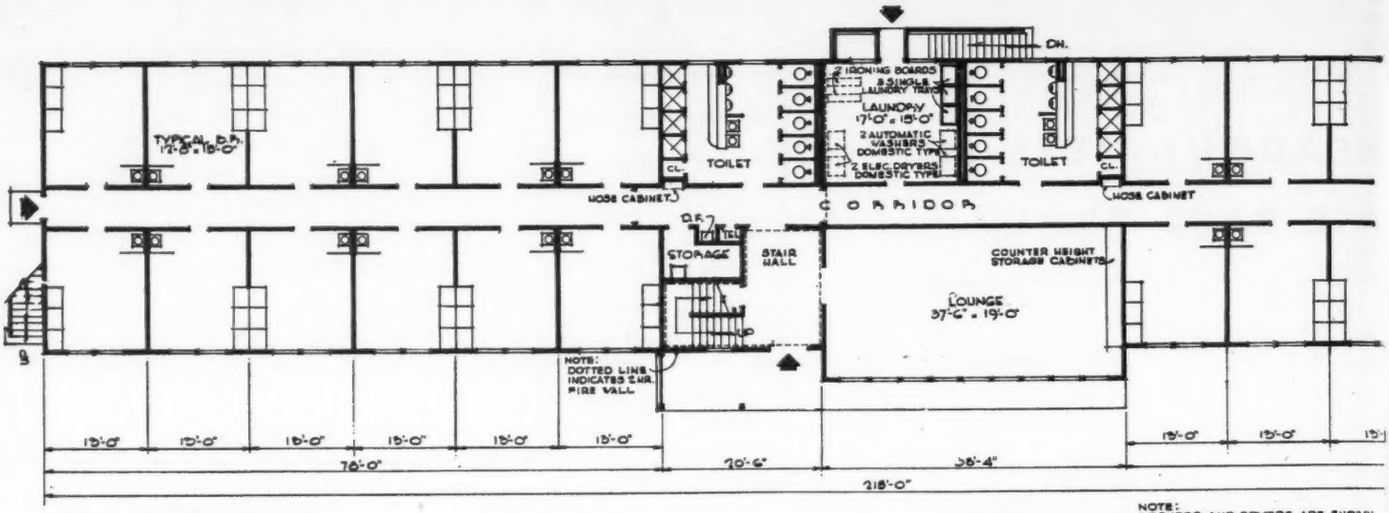
SECOND FLOOR PLAN

HEADQUARTERS AND OPERATIONS BUILDING COMBAT SQUADRON

When a squadron gets into actual combat, in some distant battle area, its routine operations are naturally quite different from those of a training base. It still has its office problems, however, so in this building office space is combined with operational needs, making a combination headquarters and operations building

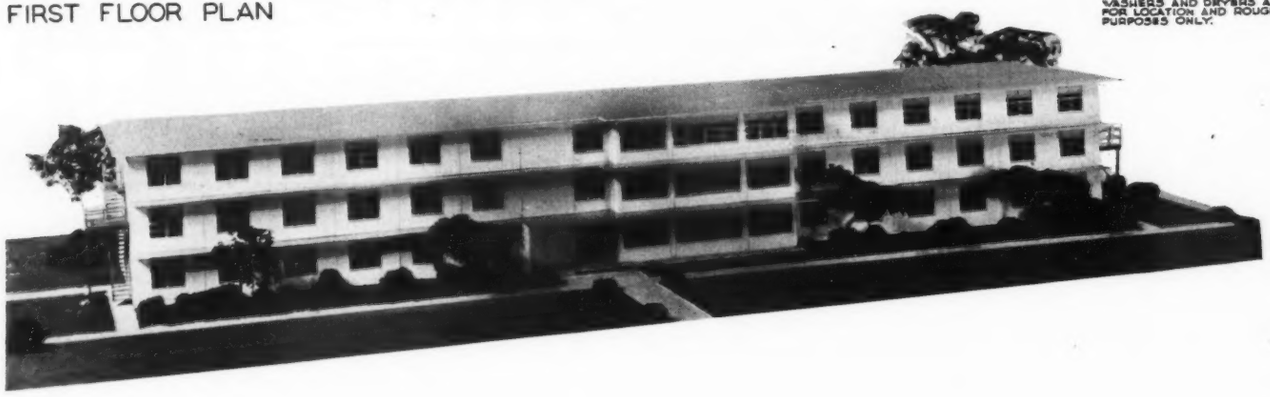


FIRST FLOOR PLAN



FIRST FLOOR PLAN

NOTE:
WASHERS AND DRYERS ARE SHOWN FOR LOCATION AND ROUGHING IN PURPOSES ONLY.



DORMITORIES

OF ALL OF THE TYPES of Air Force building, probably none has had such intensive study as barracks or dormitories. Here the need for economy is especially great, since naturally dormitories are everywhere and extras in the cost would be multiplied over and over again at every Air Force base. So these buildings have been studied and re-studied and are still being discussed.

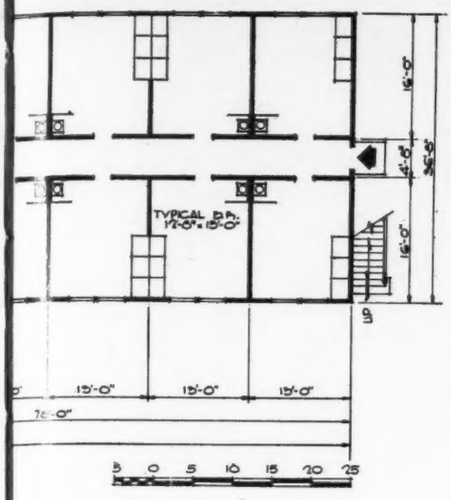
On the functional side, they are not to be regarded as the barracks buildings of the last war or the war before that, for airmen in training must study just as assiduously and as frantically as college students. They must, in fact, absorb technology at a rate that would give pause to college engineering students. Thus the studies center around a dormitory type of building, in place of the barracks kind of squad room accommodations, with at least some provision for study. There is also the problem, worse than in college dormitories, of some men studying while others are sleeping, for Air Force shifts usually go around the clock, some men being assigned to night operations which may or may not be part of their training.

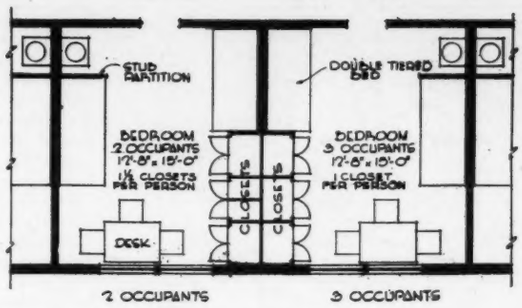
The problem, then, was to develop dormitory-type accommodations that would come within the prescribed limit of 72 net sq ft per man in bedrooms.

The design here shown is the 1952 model, which is in many respects more economical than the 1951 plan. The men are housed in rooms, with cot-type or bunk beds, a study table, a straight chair for each man, and a storage closet. In a college such a room would be considered small for two students, and each would expect his own study desk and certainly some easy chairs. In the Air Force the rooms are designed for either two or three men. To meet the 72-sq-ft limit it is necessary to put three men in many of the rooms, though not all of them. Then at least one two-deck bunk would be used, and the closet space would be divided for three men each to have his own space.

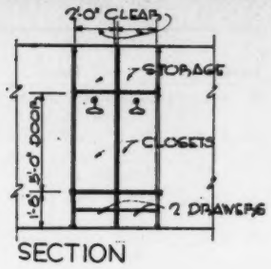
Another problem, in half-war half-peace times, is to encourage reenlistment, and this is largely a matter of giving the men decent living accommodations. Training of airmen is frightfully expensive, and base commanders have called vociferously for all possible means to keep men for more than just the first hitch. It doesn't matter much whether they are pilots or ground crew men, their training is still long and painful, and to keep them from leaving for good paying jobs in private industry requires at least livable quarters.

The plan shown is more economical than earlier schemes. Storage space is provided above the individual closets in the room, whereas in previous schemes there was a central storage room; the newer arrangement not only saves space but also makes storage easier to control. The new model also uses outside stairs for fire exits, a further saving in space.

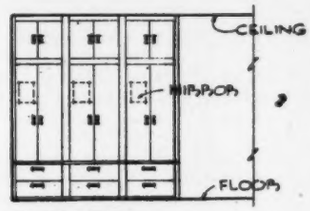




TYPICAL ROOM LAYOUT



SECTION



ELEVATION

CLOSETS

0 5 10

Each typical room has three closets, full ceiling height, with built-in drawers and upper storage compartments. For two-man occupancy, center closet is cut in half

The plan shown would be identical for first, second or third floor, except that the laundry room would not occur on the third floor. The laundry, by the way, has proved an appreciated convenience; it is surprising how much of their own washing the men will do. The equipment is actually paid for by the men, out of their welfare fund.

Notice that the lounge room does not connect directly to corridors; it may be used for entertaining guests not permitted in the rest of the building. This is especially necessary in women's dormitories. Incidentally, the plan would be virtually identical for use by women, with only minor changes in facilities, and with the addition of a small kitchenette in the lounge.

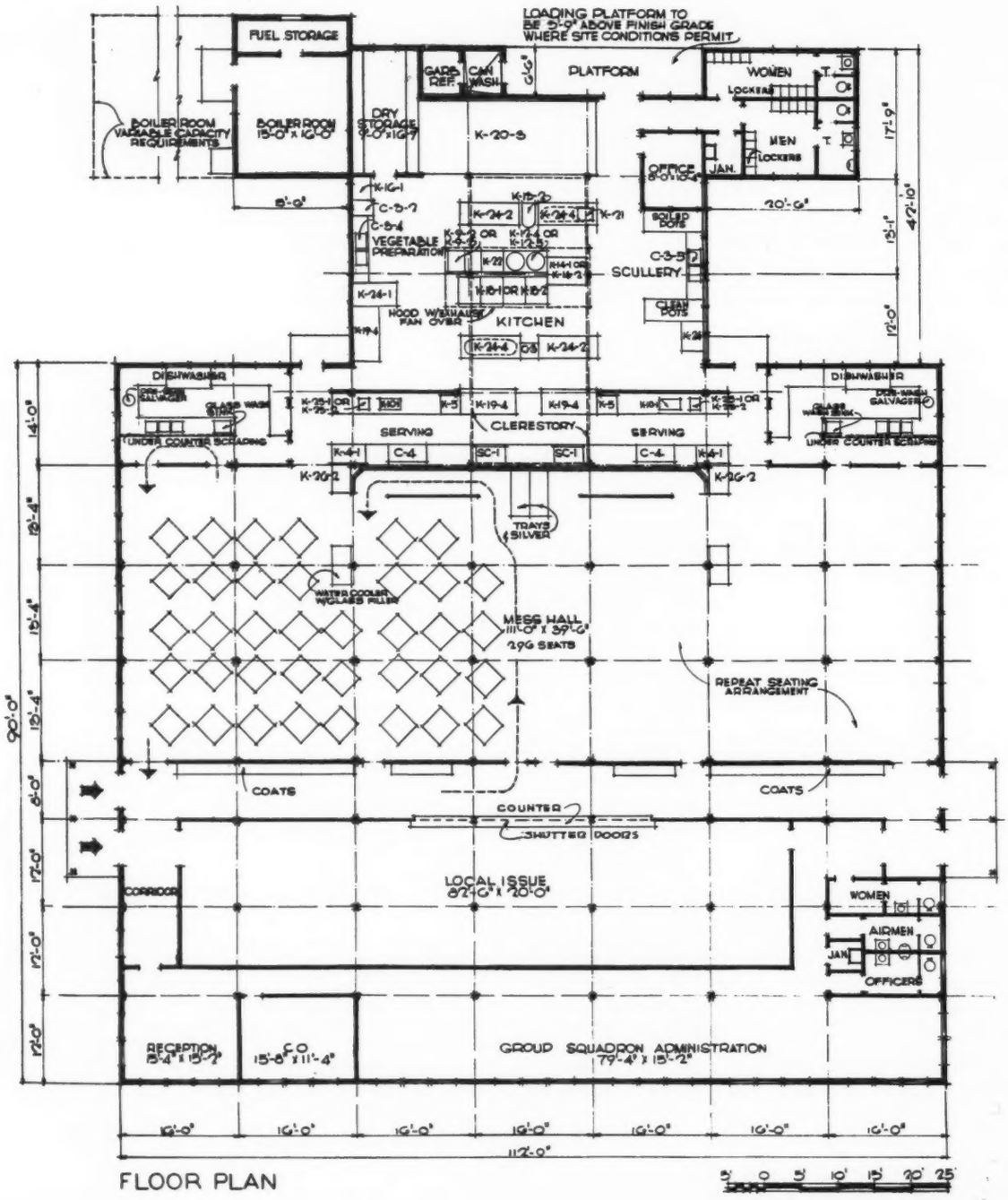
Normally the dormitories would be three stories high, in "25-year" construction — concrete frame, masonry walls, fire-resistant design. This would compare in cost with wood construction, two-story buildings with "10-year" finishes. They are usually built in groups of four buildings, with mess hall, in a rough quadrangle scheme.



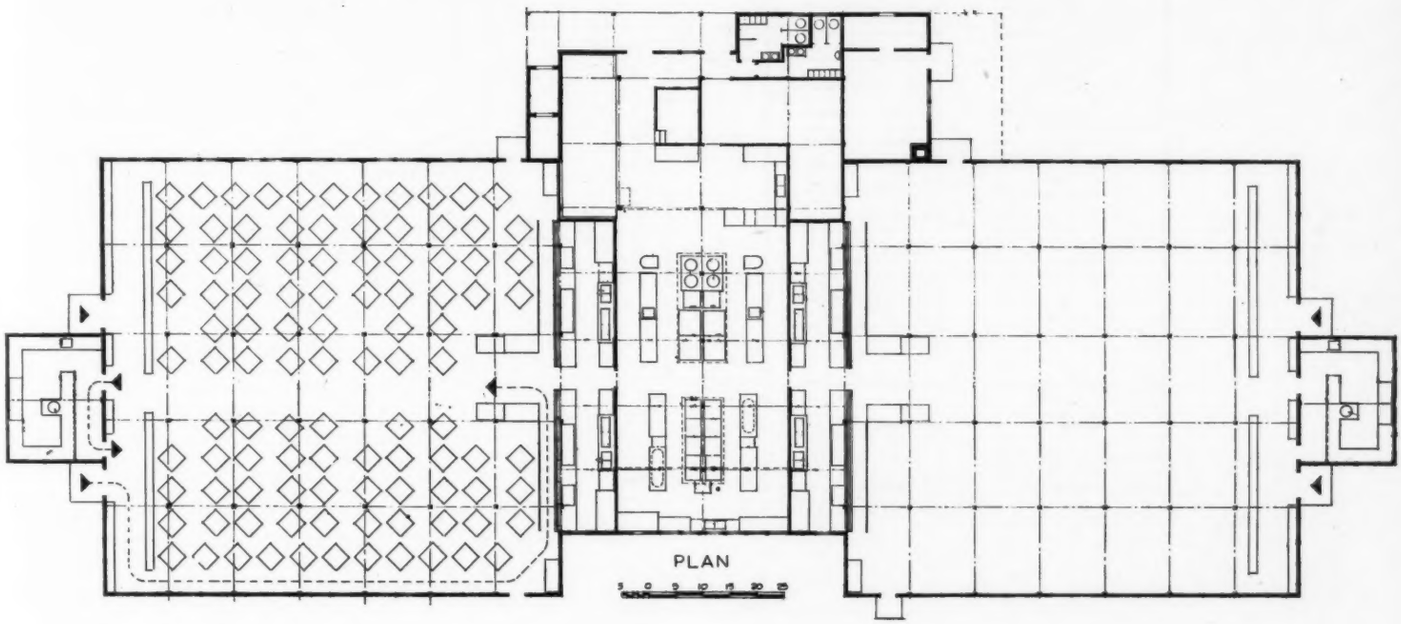
Item No.	Item	Size	No. Req'd	Fuel or Power
K- 4–1	Cabinet, ice cream 4 hole, 20 gal.	53″x 31″x34″	2	Elect.
K- 5	Chest, ice crushed—200 lbs.	32″x 32″x32″	2	
	Dishwasher		2	
K- 9–2, or	Fryer, deep fat—68 lbs.	21″x 36″x34″	2	Gas
K- 9–3	Fryer, deep fat—90 lbs.	27″x 34″		Elect.
K-10–1	Griddle (type A)	34″x 18″	2	Elect.
K-12–4, or	Kettle—Jacketed—60 gal.	30″ OD	2	Steam
K-12–5	Kettle—Jacketed—60 gal.	35″ OD		Gas
K-13–2	Mixer—Vertical—30 QT.	23″x 39″	1	Elect.
K-14–1, or	Oven bake, 3 deck (tile)	55″x 48″	1	Gas
K-14–2	Oven bake, 3 deck (metal)	60″x 44″		Gas
K-16–1	Peeler, veg.—30 lb.	40″x 30″	1	Elect.
K-18–1, or	Range, H.D. hotel type	36″x 42″	4	Gas
K-18–2	Range, H.D. hotel type	36″x 36″		Elect.
K-19–4	Refrigerator, 65 cu. ft.	90″x 42″x74″	3	Elect.
K-20–3	Refrigerator, prefab., 1310 C.F.	120″x288″x94″	1	Elect.
K-21	Slicer, meat—pedestal or table mounted	26″x 20″	1	Elect.
K-22	Steamer, veg., 6 bu.	36″x 36″x66″	1	Elect.
K-24–1	Table, work	72″x 36″	1	
K-24–2	Table, work	96″x 36″	2	
K-24–4	Table, cook's w/pan rack	96″x 36″	2	
K-25–1, or	Toaster, conveyor—360 slice	16″x 18″x28½″	2	Gas
K-25–2	Toaster, conveyor—360 slice	16″x 18″x28½″		Elect.
K-26–2	Urn, cofee, twin w/stand 6/34/6 gal.	48″x 33″x64″	2	Elect., gas, or steam
	Sink, glass wash	24″x 20″	2	
C-3	Sink, cook's, 1 comp.	30″x 24″x14″	1	
C-3–2	Sink, soaking, 1 comp.	36″x 24″x16″	1	
C-3–4	Sink, scullery, 2 comp. w/drain boards	108″x 26″x16″	1	
C-3–5	Sink, scullery w/steam jet, drain boards	108″x 26″x20″	1	
C-4	Table, steam	61″x 28″	2	Steam, Gas, or elect.
SC-1	Cold pan	46″x 28″	2	
	Prewash salvager		2	

Note: Item numbers preceded by K are centrally procured, government furnished and contractor installed.

Item numbers preceded by C are contractor furnished and contractor installed.



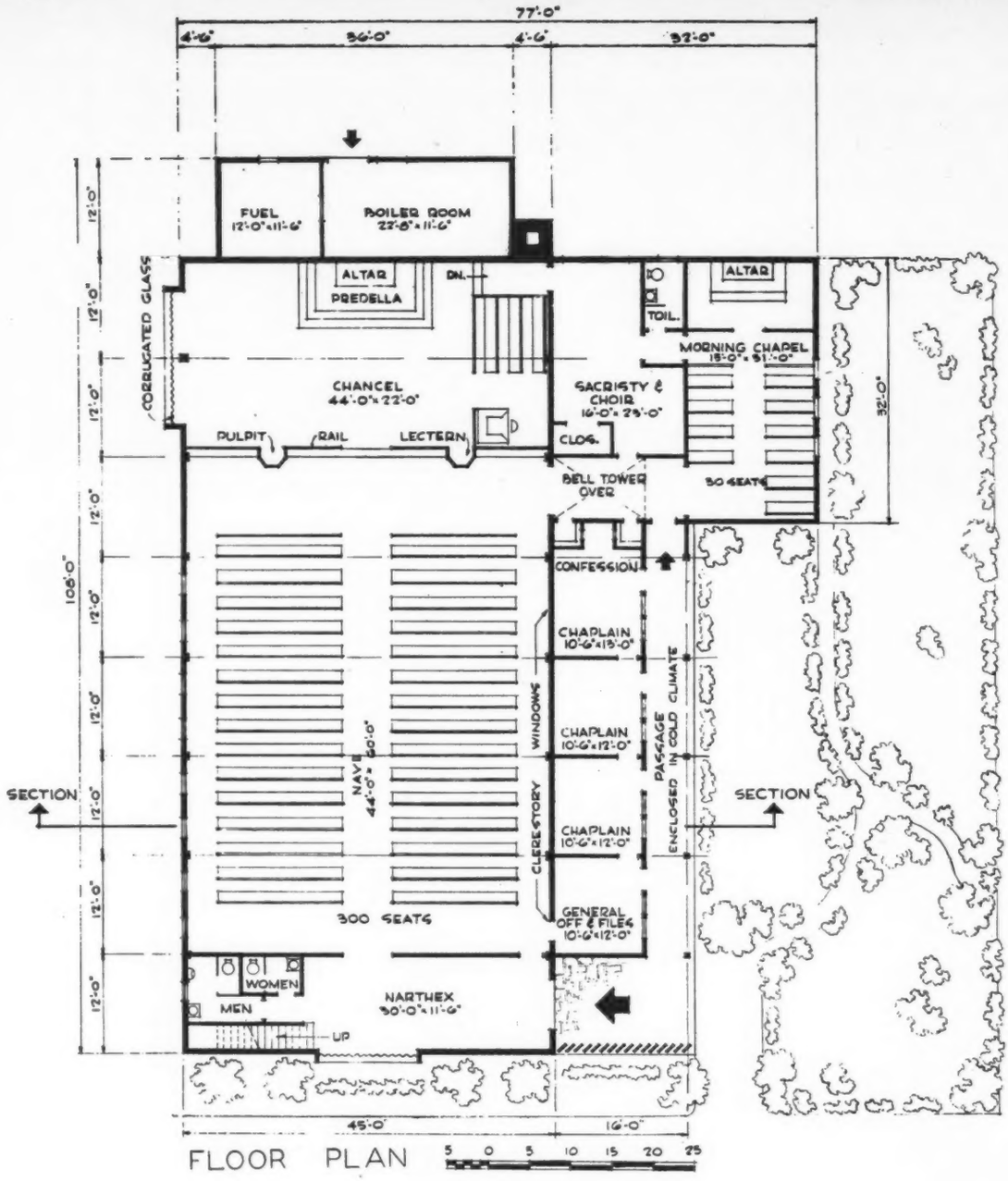




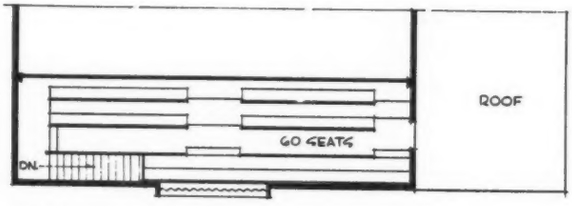
MESS HALLS

THE MESS HALL shown in plan on the opposite page is the one used most frequently. Its normal capacity is 500 men, but it will serve up to 750 without overloading. Normally such a mess hall serves four dormitory buildings, which would be arranged around it. Serving is handled in a double cafeteria arrangement, with double entrance, double dishwashing scheme. The plan pretty well explains itself, except for the lower part of the drawing. The building actually serves the double purpose of serving food and issuing it, for various operational maneuvers which involve feeding away from the base. In the scheme shown the same corridor serves both the cafeteria and the issue counters.

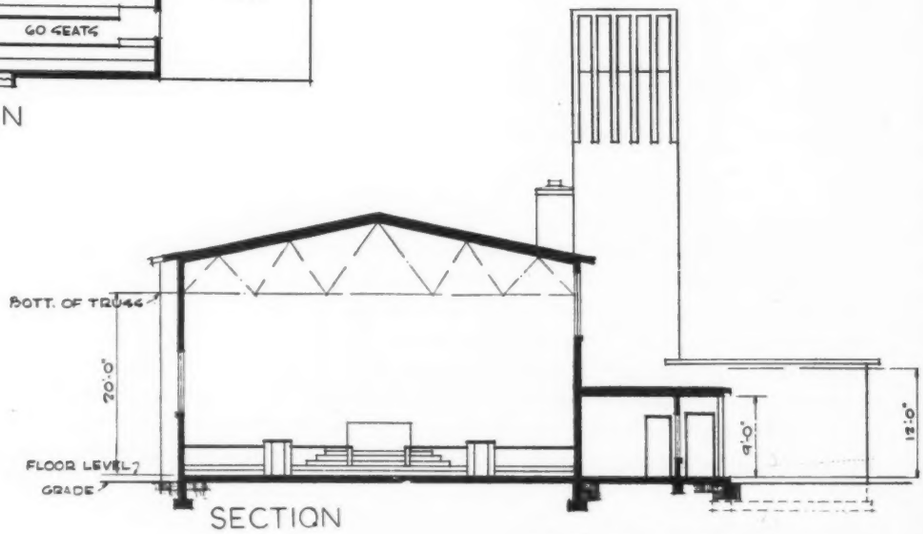
The plan above is a larger variation of the double cafeteria scheme, for 1200 men. It is not normal to the dormitory grouping mentioned above, and so would not be frequently used, but is available in case a larger group of living quarters were found more practical.



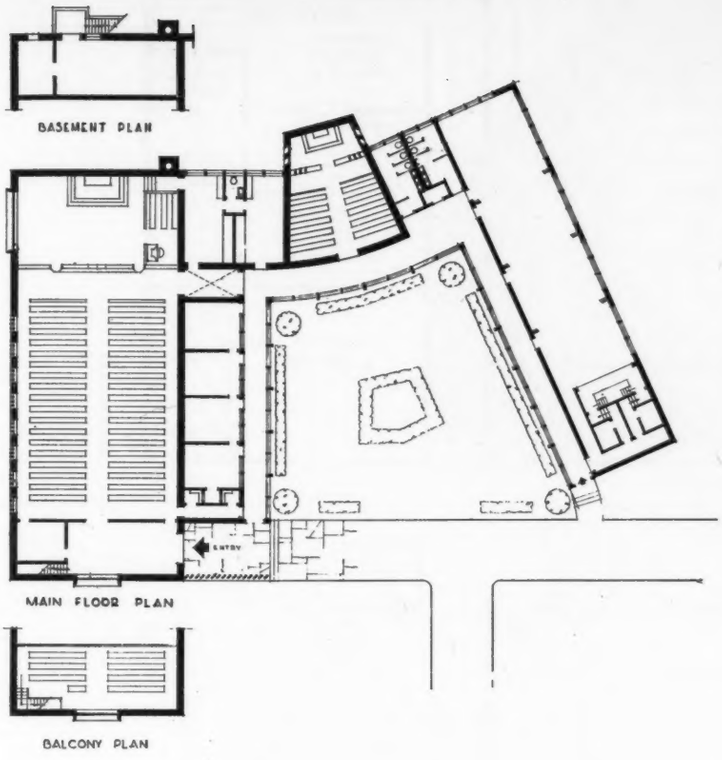
FLOOR PLAN

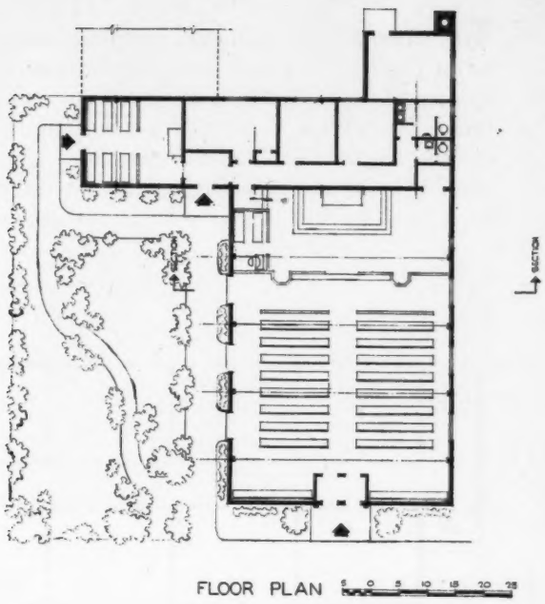


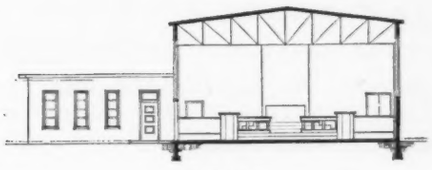
BALCONY PLAN



SECTION

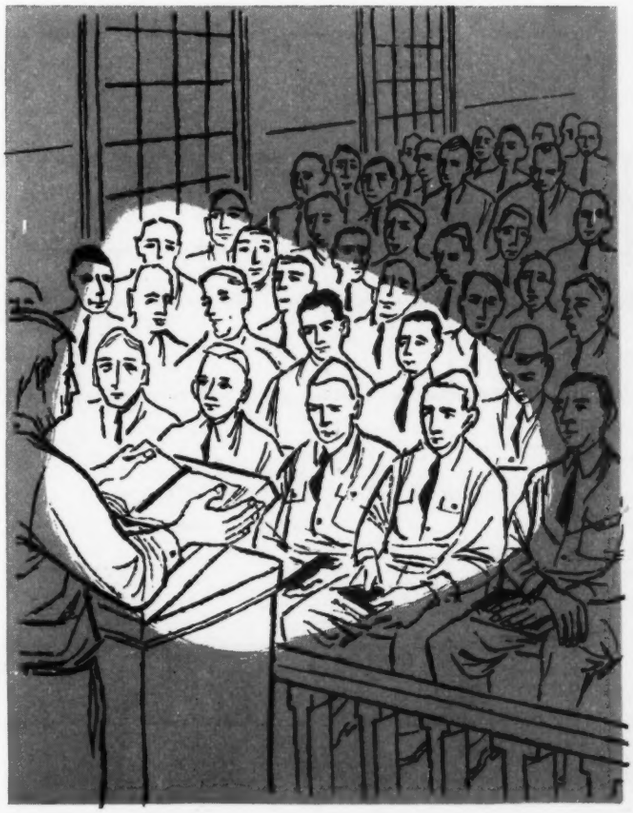






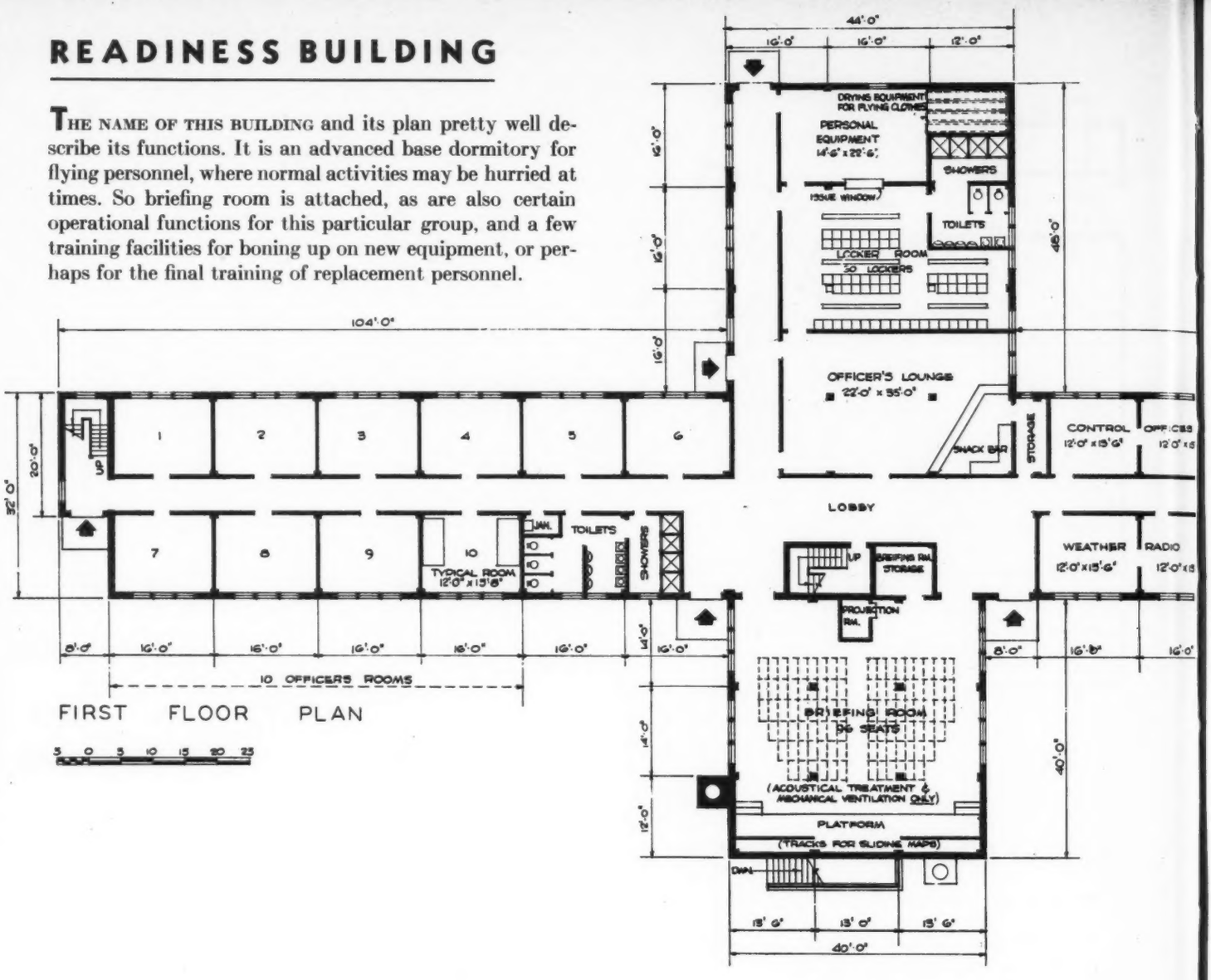
CHAPELS

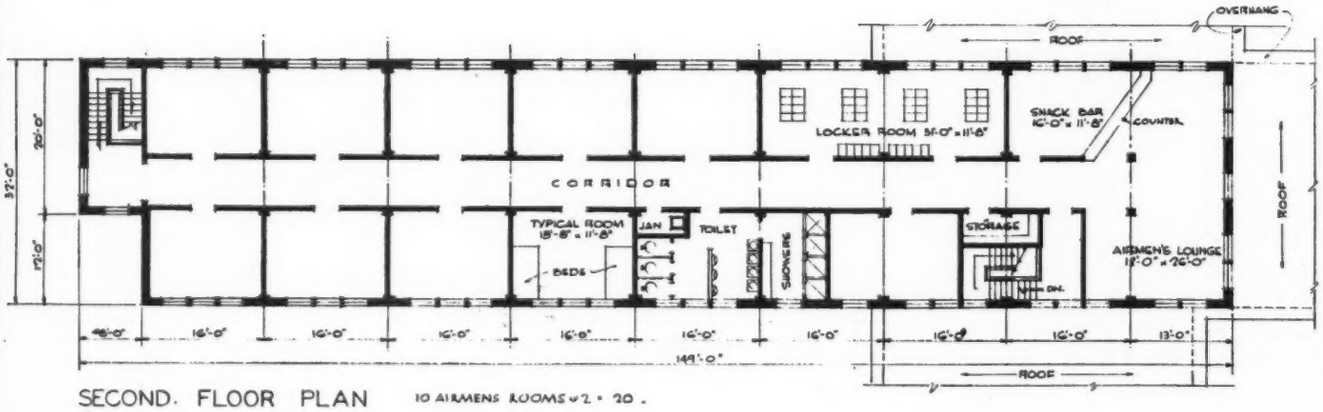
CHAPELS FOR AIRMEN are, of course, non-sectarian, will serve equally well for any religious group. The basic chapel is shown opposite, with all of the principal requirements, but without classrooms for religious teaching. The 300-seat chapel is the most common one, but there are also definitive designs for smaller and larger buildings. The morning chapel is considered a firm requirement, the classrooms desirable. Thus the morning chapel is set to the side so that the classroom wing can be added, if not during original construction, at a later time. Where the classroom is part of the first construction it might well be angled as shown above, if for no other reason than relief from the cumulative rectangularity that might begin to seem regimented when an air base grows quite large. While the 300-seat chapel is considered the regular size, it is possible to put all necessary requirements in a small chapel, without bell tower, as shown at the right above.

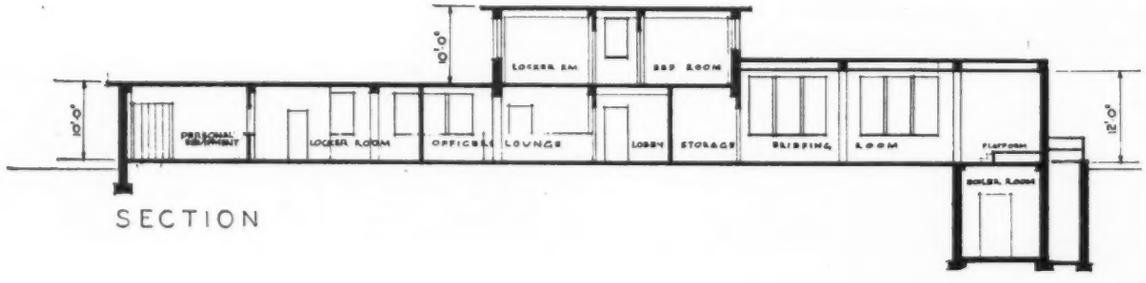


READINESS BUILDING

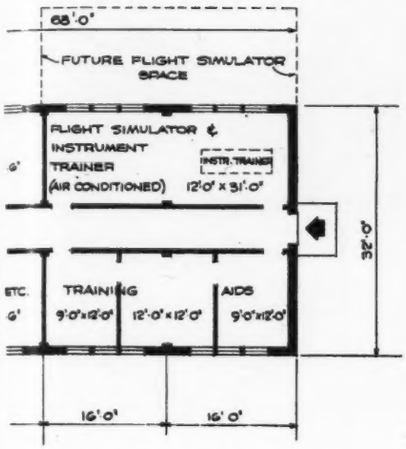
THE NAME OF THIS BUILDING and its plan pretty well describe its functions. It is an advanced base dormitory for flying personnel, where normal activities may be hurried at times. So briefing room is attached, as are also certain operational functions for this particular group, and a few training facilities for boning up on new equipment, or perhaps for the final training of replacement personnel.





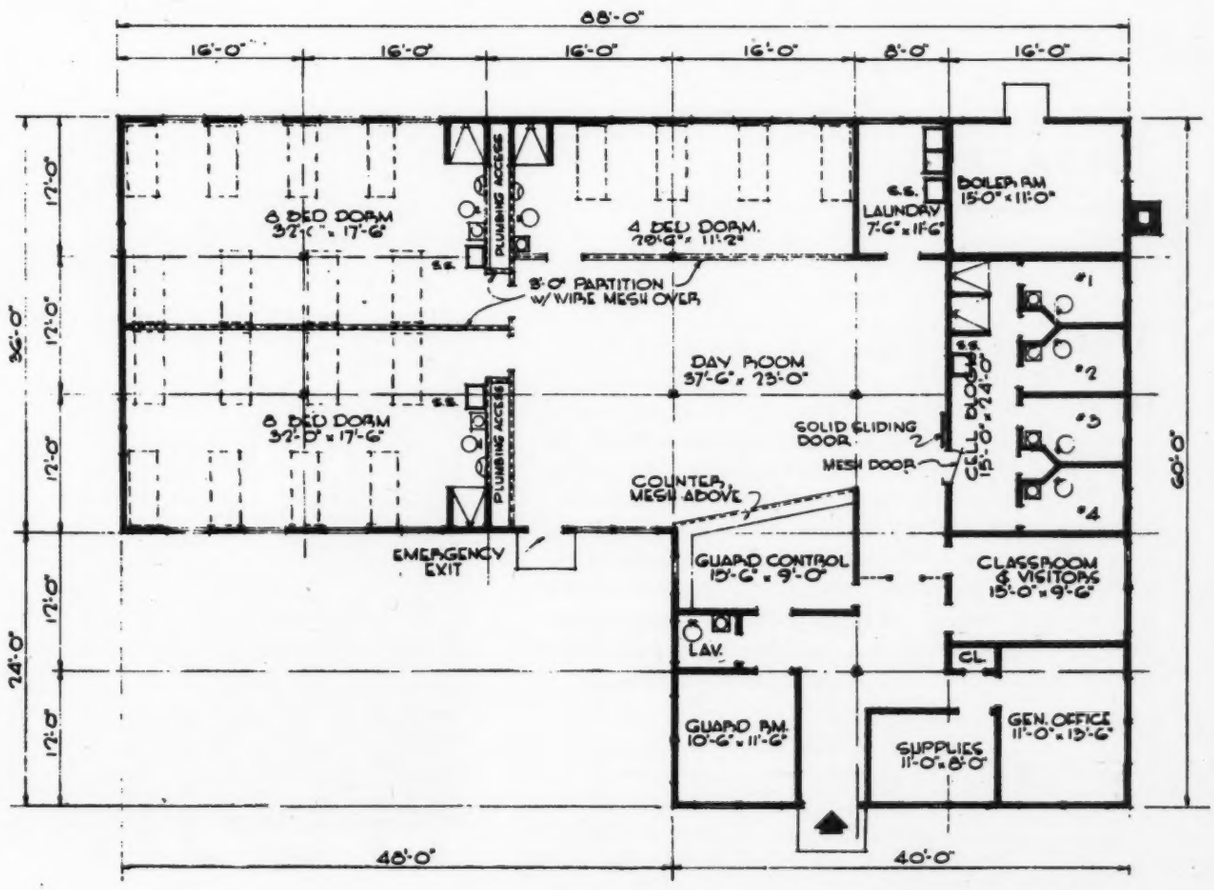






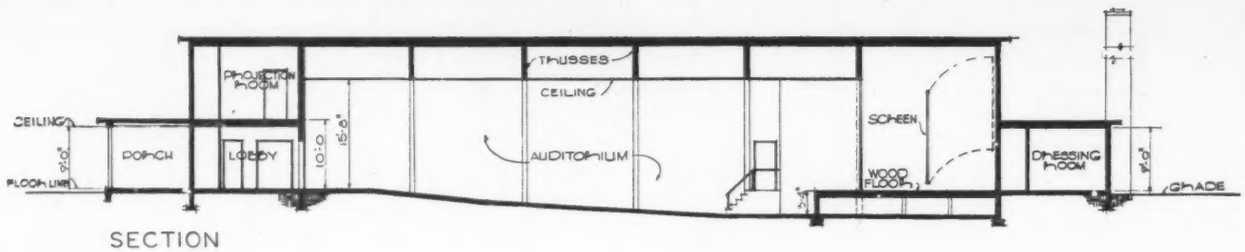
GUARD HOUSES

AND, of course, the inevitable guard house. This scheme represents fairly normal prison design as adapted to Air Force needs. There is an isolation block, for the infrequent crack-up case. But the normal assumption is that the guard house is for temporary detainment of a few "good kids" who get too boisterous once in a while.

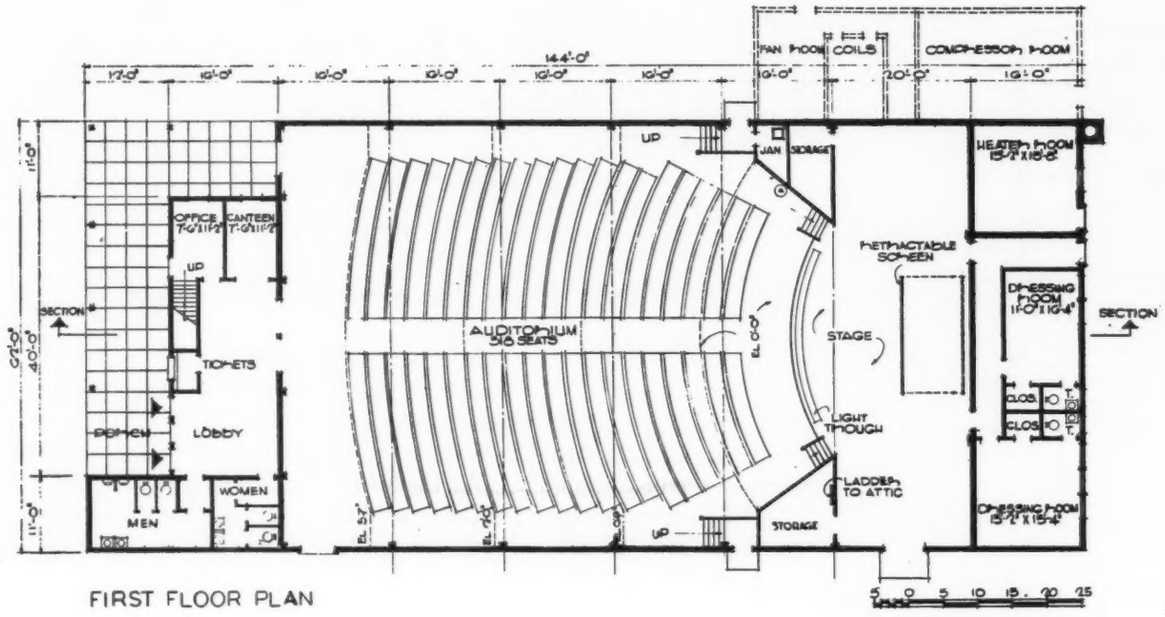


FLOOR PLAN

5 0 5 10 15 20 25

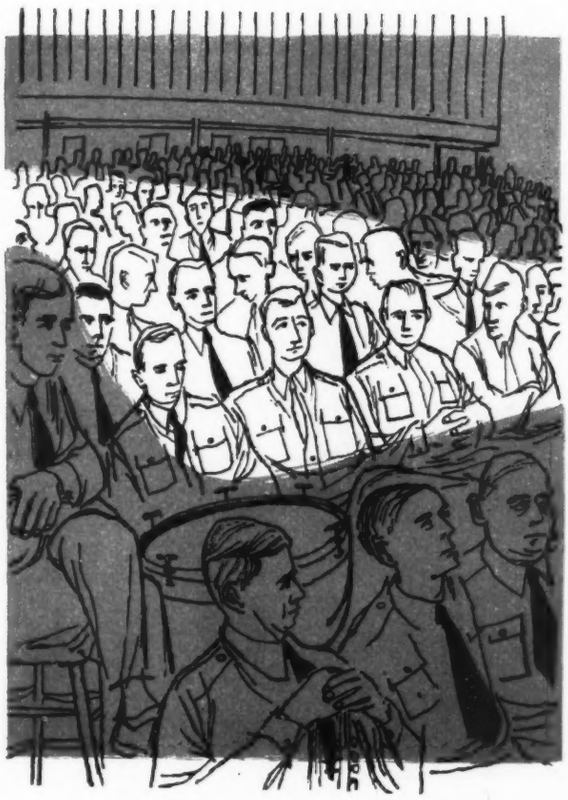


SECTION



FIRST FLOOR PLAN

THEATERS



THIS is one of a considerable group of theater designs for the Air Force, this one having some 500 seats. All plans are basically alike, differing mainly in size, somewhat in facilities. Most of the entertainment will be movies, but in all theaters there should be some provision for live-talent shows. Some sort of theater is considered a must at every air base. In a normal base of, say, 6,000 men, a 1,000-seat theater would be used. A training base, which might run up to 30,000 men, would have several theaters. All are pared down to bare essentials. Working drawings are available for certain of the theater designs, done by John and Drew Eberson.

Marcel Breuer, Architect

Joseph Molitor Photos





Cooperative Dormitory

Vassar College

Poughkeepsie, New York

AN ARCHITECTURE OF ENERGY

IN AN OLD COLLEGE SETTING, with its venerable buildings, this new dormitory has a quality that almost makes it jump. There was no attempt here to make it blend with its ancient neighbors, not even any urging that it do so. The desire was rather to assert the "floating, still uncrystallized energies" of a college group, to create something felt, not merely seen.

Breuer has taken pains with laymen to explain that form-follows-function is inadequate explanation of this particular form, though hastening to add that the functional approach is assumed to be a simple necessity in any building problem, up to a certain point.

In this instance the analysis went: there should be privacy for the bedrooms; one way to achieve this is to elevate them from the ground. Two gains follow: covered outdoor areas for ping-pong tables, games, bicycles, and uninterrupted views, so that the building does not split its site quite so sharply, or seem to crowd its campus.

The living-dining portion does sit on the ground, giving the dormitory a binuclear scheme that separates, actually and psychologically, the noise, music and traffic of this area from the relative quiet of the study-bedrooms.

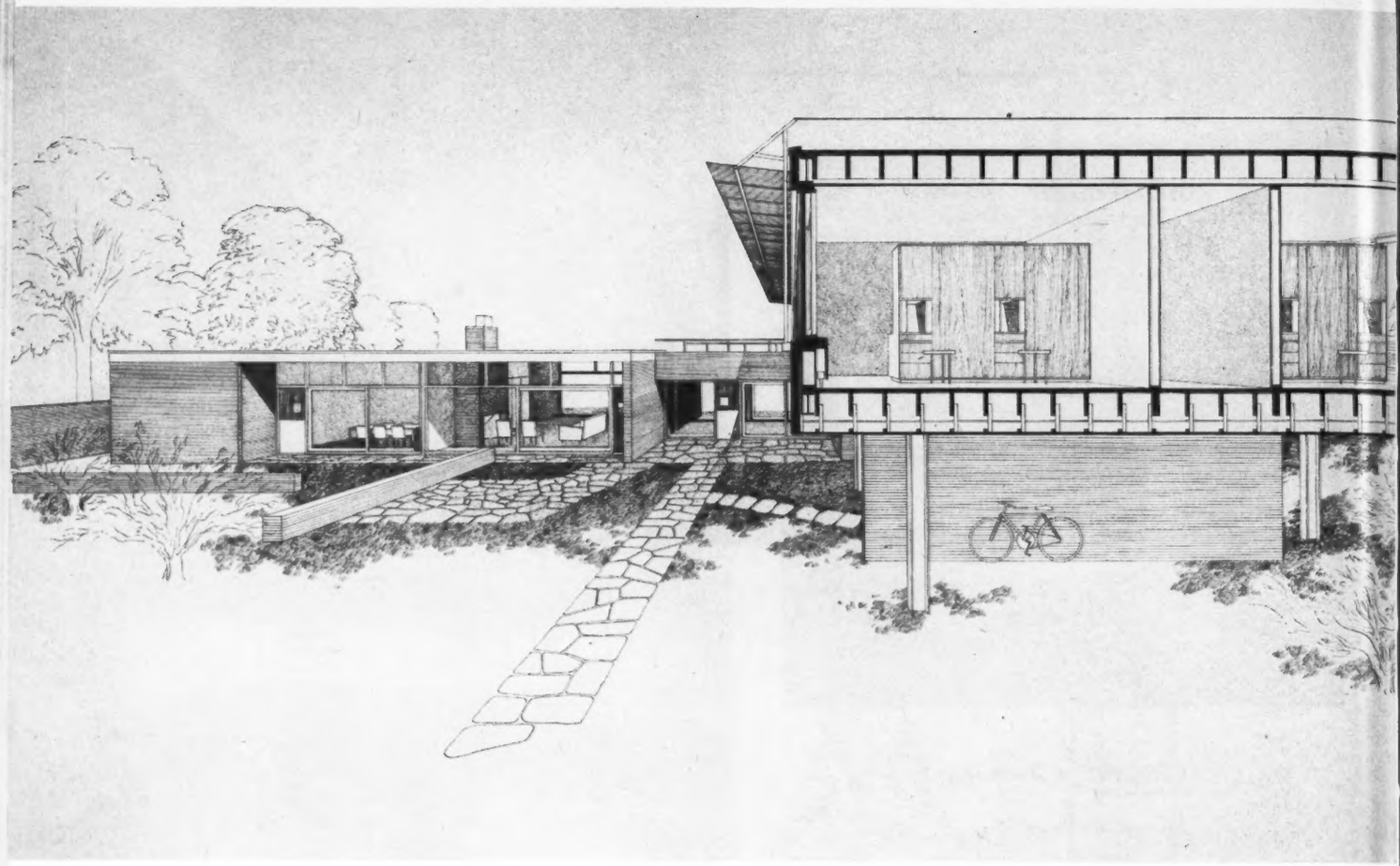
Bedrooms, besides being elevated, should be sunny: thus the orientation of windows is east-west. There should be protection from hot midday sun, hence the sunshades. Office, utility room, upstairs lounge, telephone booth and bathrooms should be along the central path of traffic, to reduce disturbance and nervosity as well as mere number of steps.

Most of the bedrooms are for double occupancy, though they are partially compartmentalized so that one girl may sleep while the other studies.

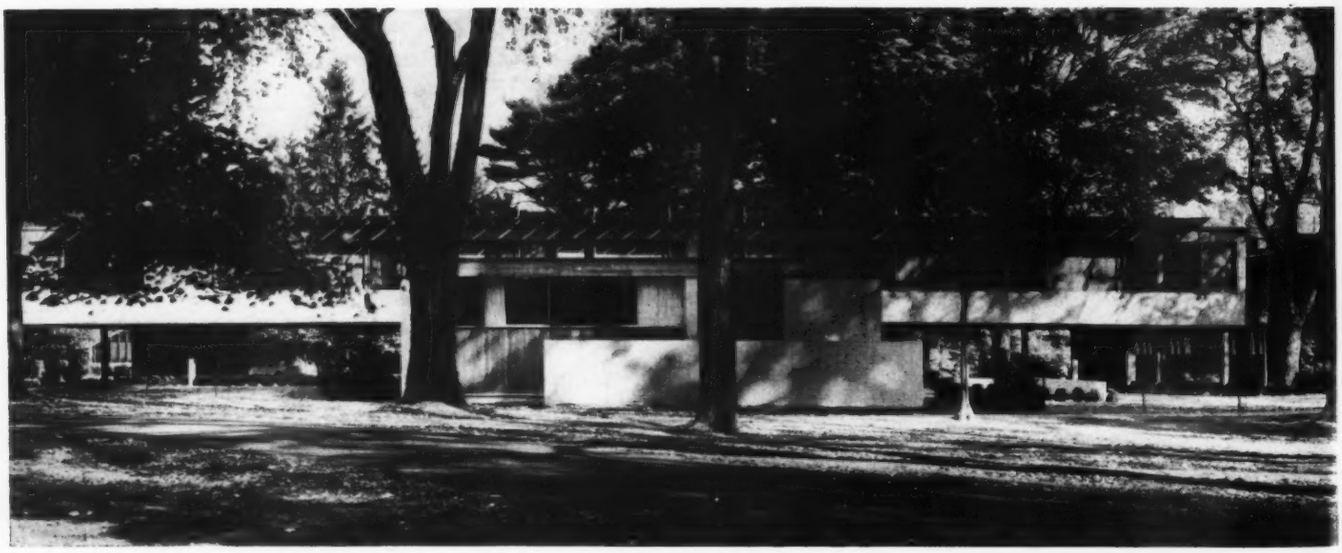
If this analysis determines form, how say what determines esthetics? Breuer has made a thrust at it in this (his first and only poem):

"Often you ask: where and how and what are esthetics, beyond functions needed?
Colors which you can hear with ears,
Sounds to see with eyes,
The void you touch with your elbow,
The taste of space on your tongue,
The fragrance of dimensions,
The juice of stone."

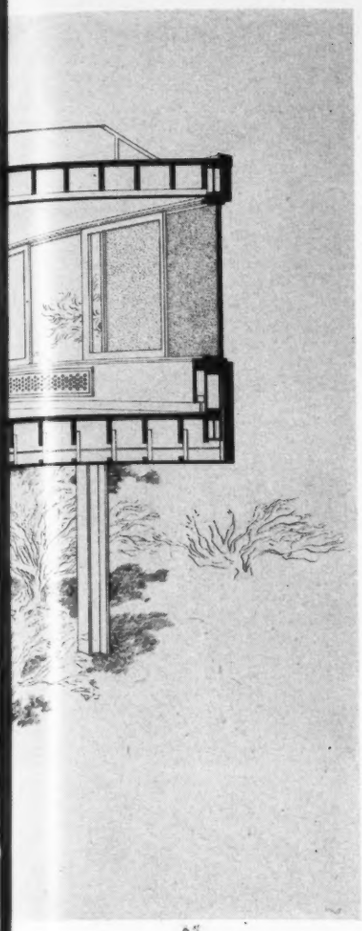
Which is probably as good a way as any to explain an architecture that is not to be seen in one plane, but must be experienced.

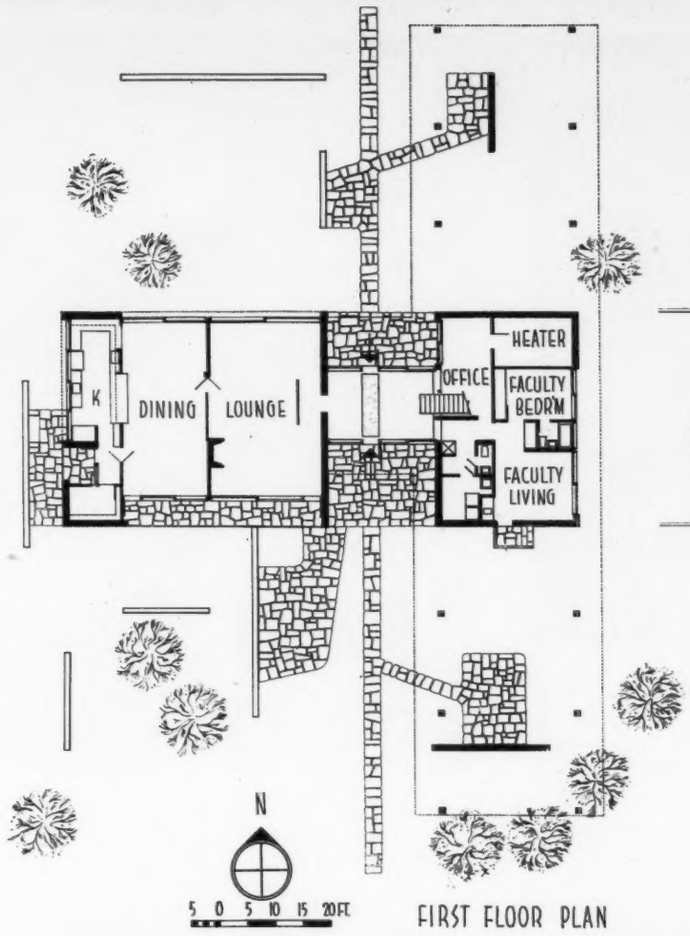


Whether Breuer builds into his site or onto it is a question that will not be settled by the Vassar Dormitory, for this building has the familiar Breuer low-seat walls to merge site and building, also the frank elevation of one portion above ground. Maybe this building suggests an answer to a current academic argument which has generated many thousands of words

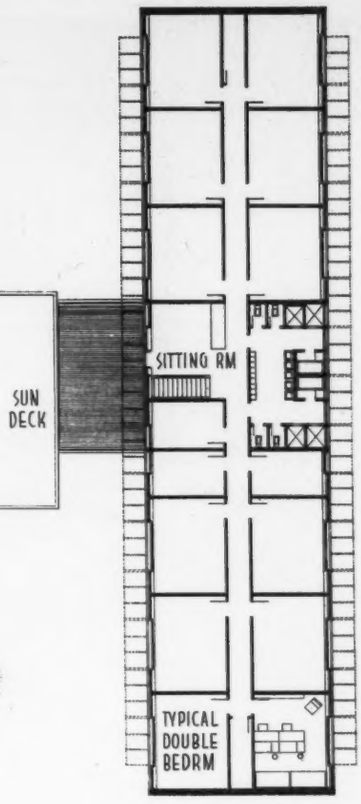


Joseph Molitor Photo

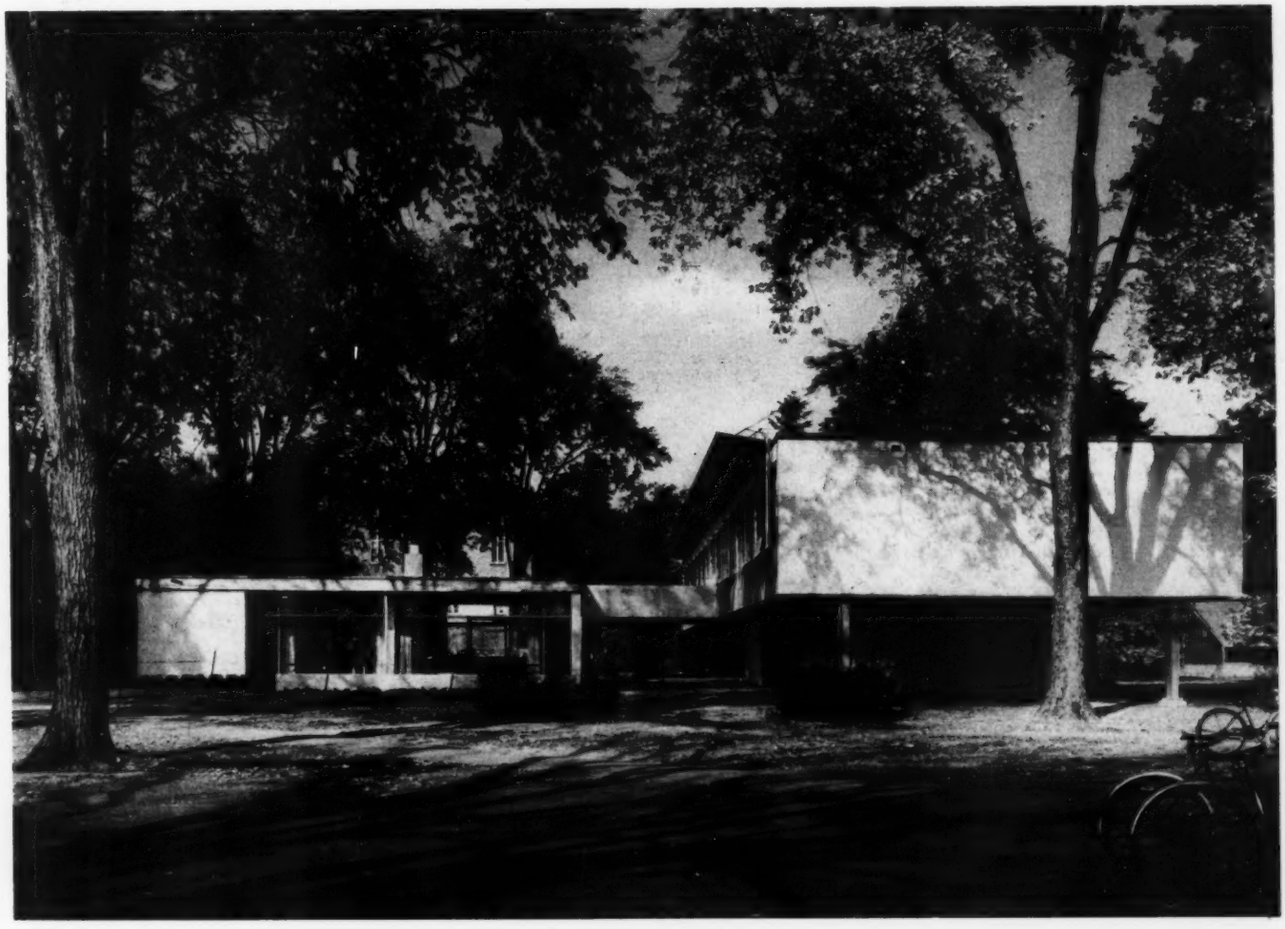




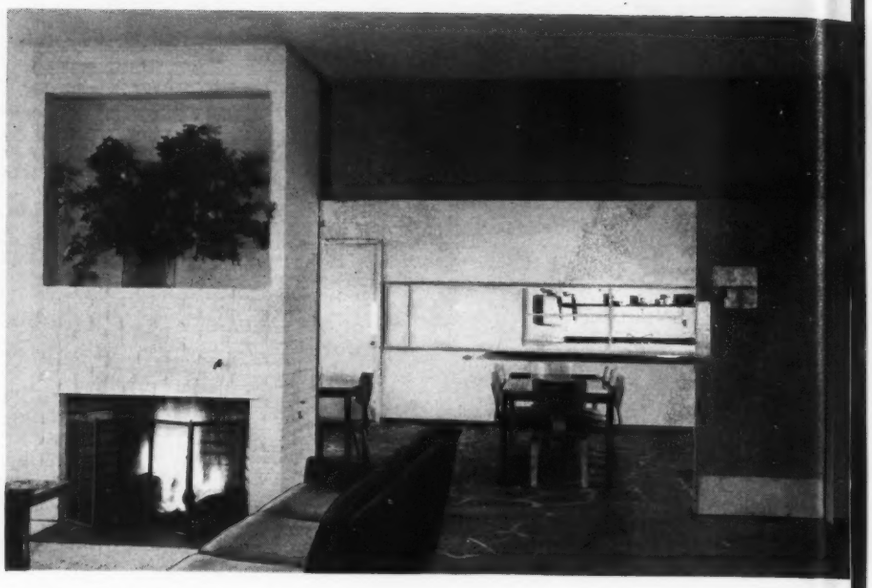
FIRST FLOOR PLAN



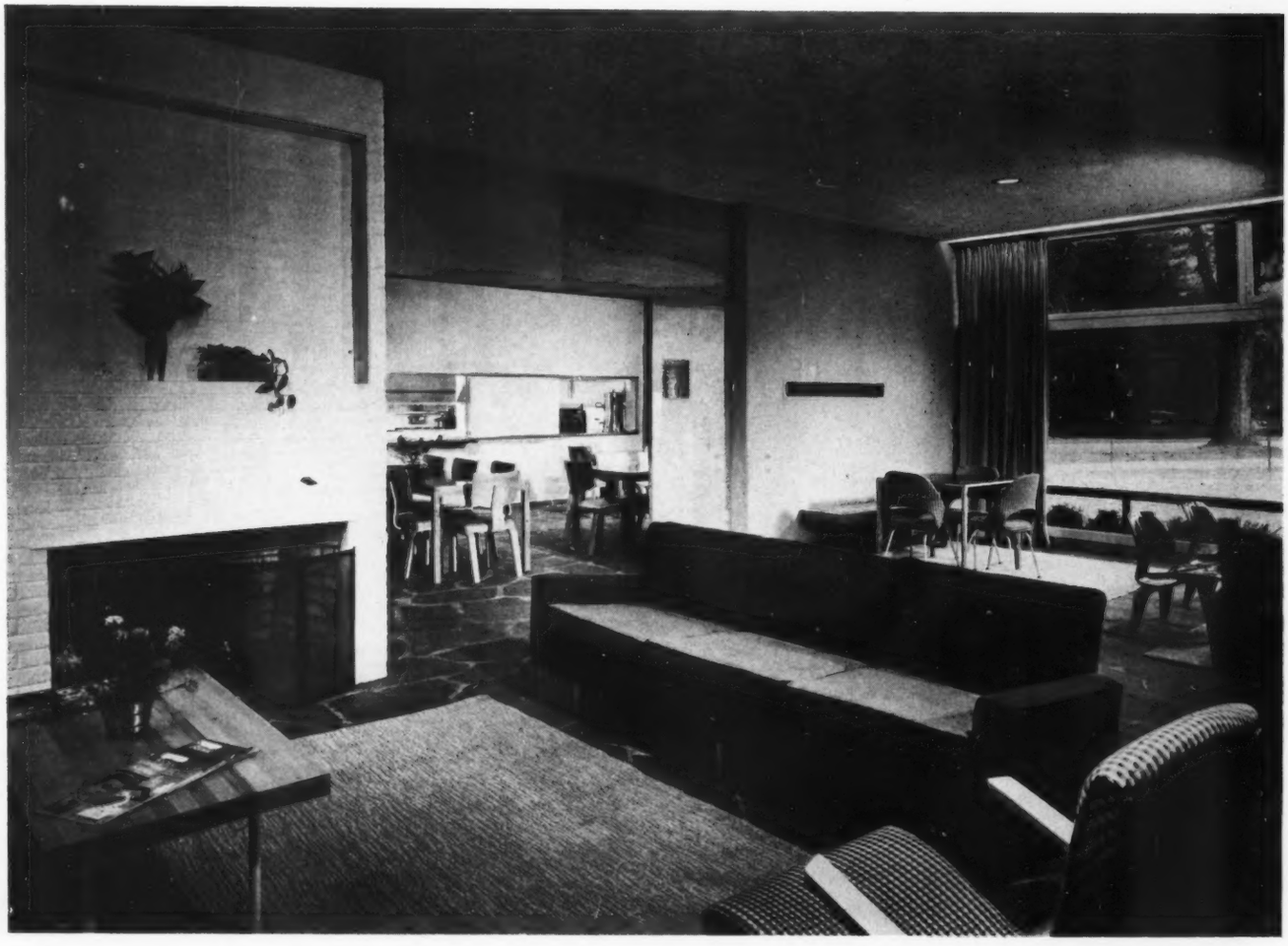
SECOND FLOOR PLAN

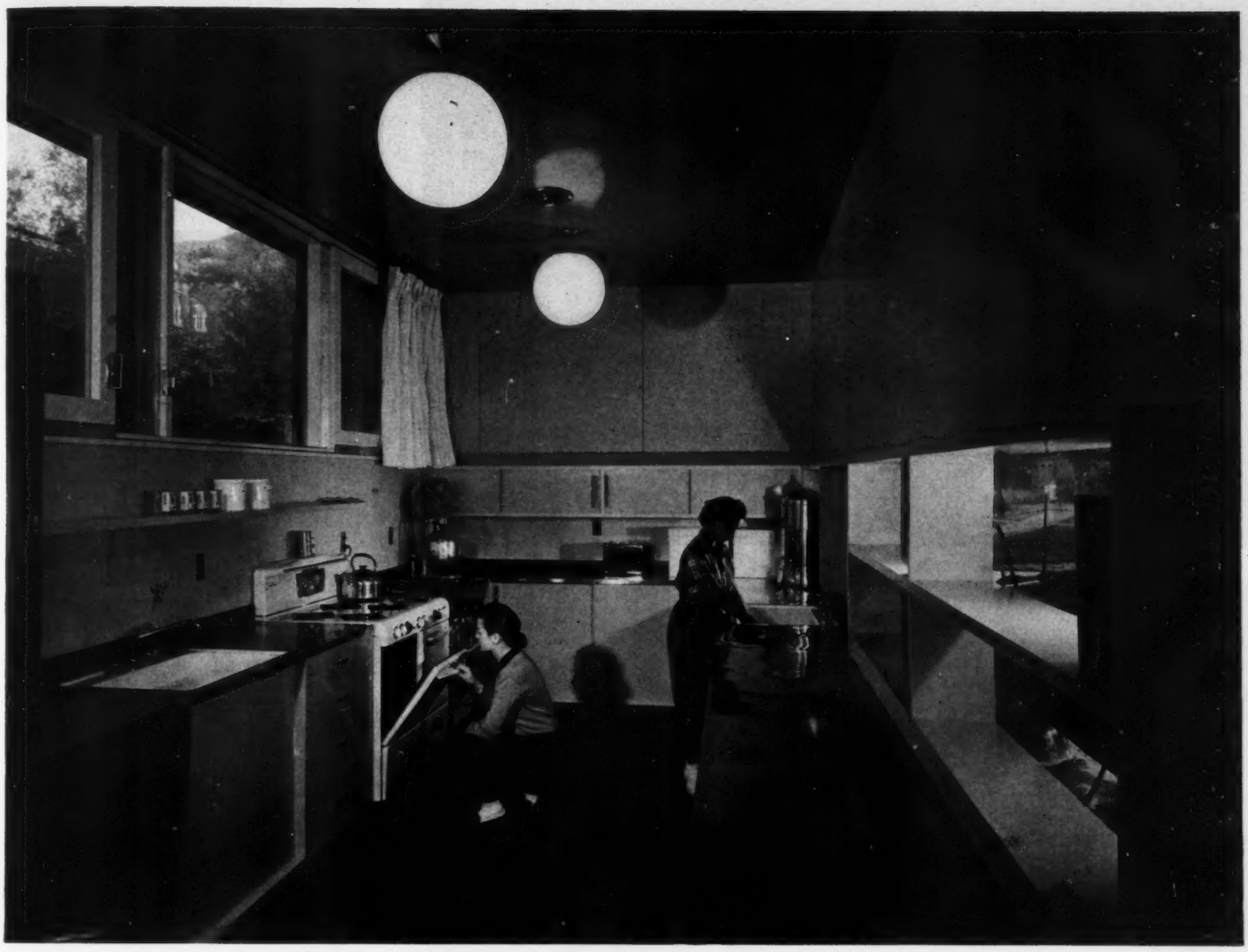






Joseph Molitor Photos





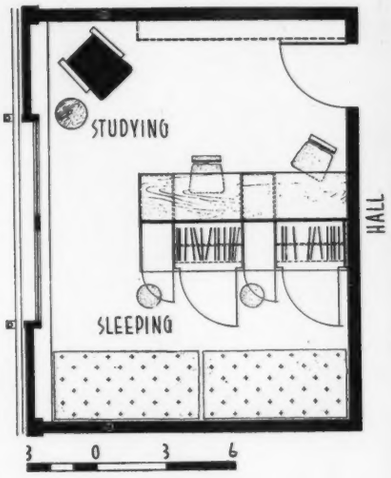


Breuer's Vassar Dormitory is a cooperative house in which the girls do their own work, even the cooking. Efficiency exhibits itself in kitchen and serving arrangements, but by no means dominates the interiors. The living-dining area presupposes a good measure of energy and noise, and is set apart from the strictly dormitory portion so that exuberance need not be inhibited. The glass walls do more than "bring the outside in;" there is perhaps a suggestion of letting the inside out. At any rate, these interiors are designed to be open, with a calculated note of gaiety





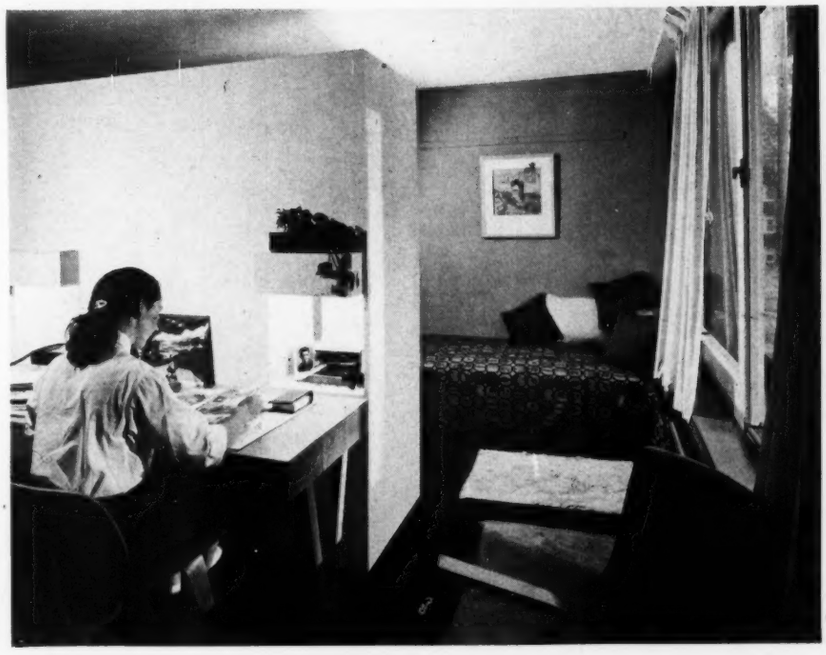




Upper photograph shows the upstairs lounge where the girls may break the grind for that all-important chatter. It is located right at the head of the stairs, opens to roof deck beyond. View in center is one of the single rooms; note the panel in the convector cover; holes may be closed for heat control by just sliding the panel. Photograph at left shows living room of special apartment for the faculty adviser

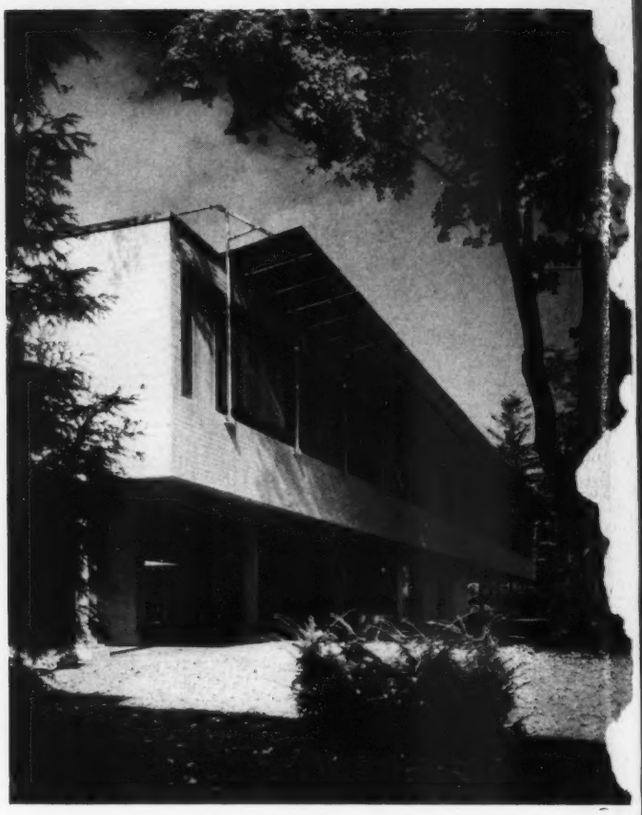


Joseph Molitor Photos



Typical double bedroom is divided into sleeping space and study space by head-high cabinet partition. On one side are aligned two study desks, each with inset lighted panel. Other side of this same fixture lights dressing table in sleeping portion

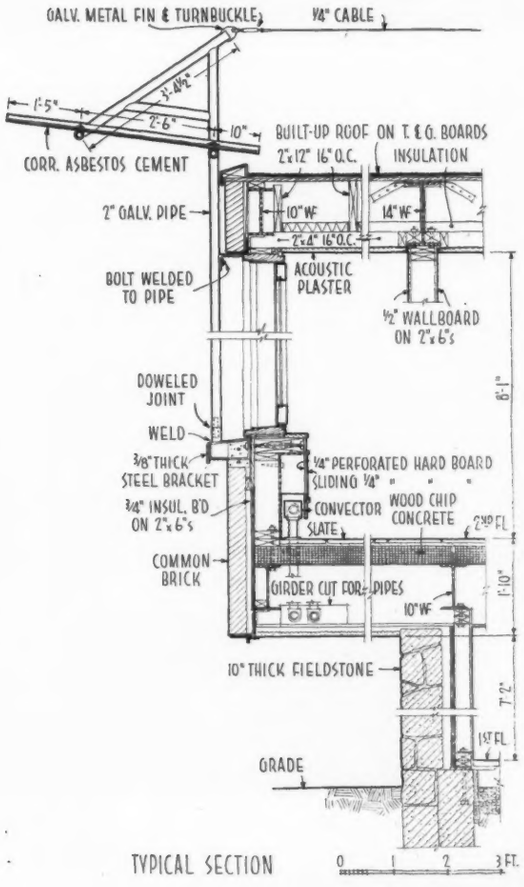


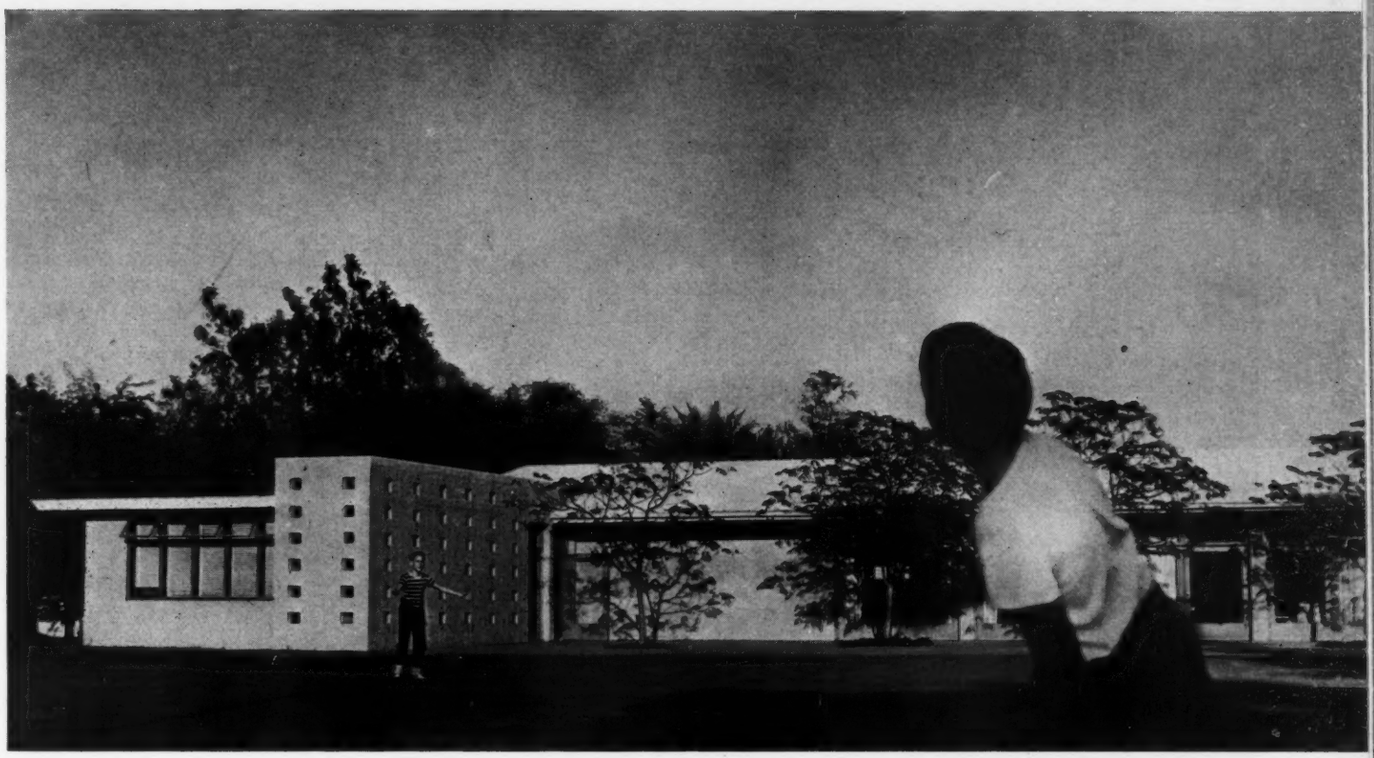




Joseph Molitor Photos

The fun of structural things in tension here comes out in a cable stabilizer for the pipe-supported sunshades. Shade itself is sections of corrugated asbestos cement, with small spaces between sections to make light stripes across the building



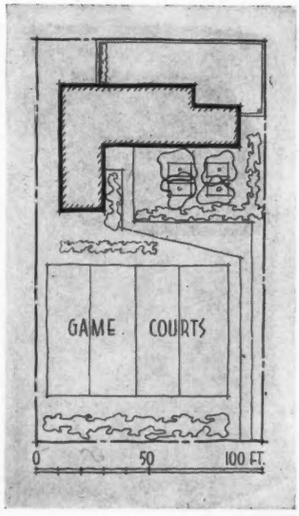


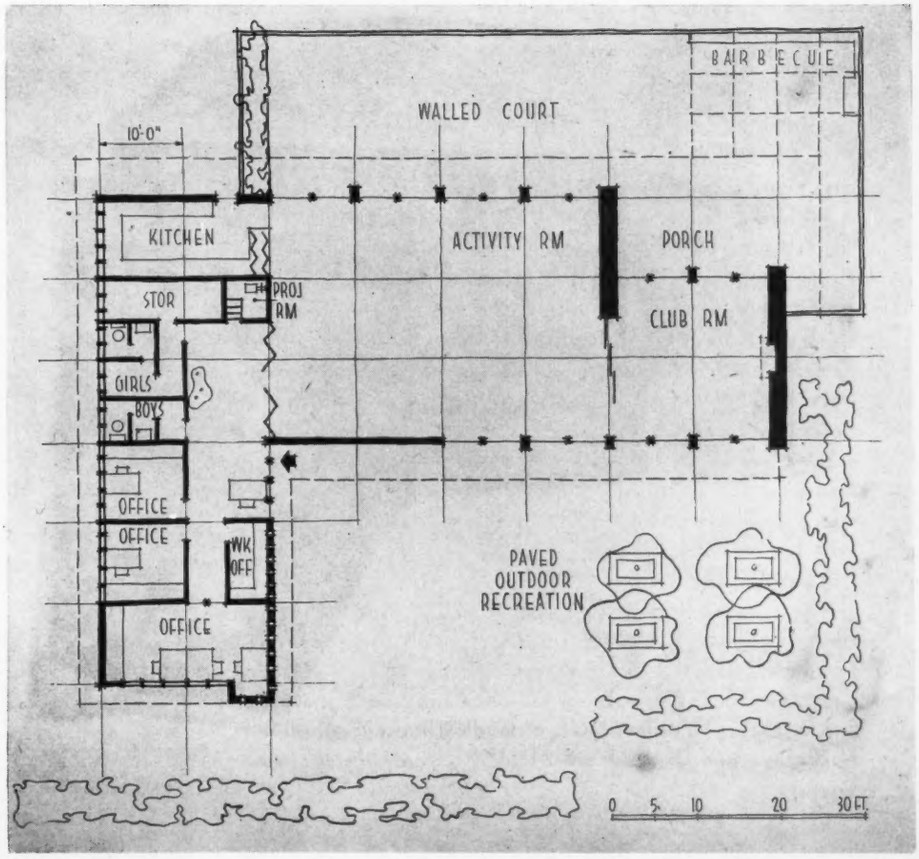
Garber Sturges Photo

YMCA-YWCA OFFICE AND ACTIVITY BUILDING

North Hollywood, California

Smith and Williams, Architects







Known as the "Y" youth center, this activities building was constructed at ⅓ to ½ the comparable cost of conventional Y buildings in California. Modular construction, elimination of much plaster, articulation of plan and similar factors are credited with keeping cost to $29,000

BETWEEN 1940 AND 1944 the San Fernando Valley gained 59,000 residents; "Y" boards and supporters started a drive for funds when the need for facilities became apparent. The budget, based on what the community could raise, was one factor behind the decision to share YM and YW facilities. In certain respects this decision satisfied social needs that might not otherwise have been met; and it also introduced a new group of design problems. A multi-use, mixed occupancy building cannot be compared with the typical, single-use "Y" building. The demands which joint scheduling made on space and facilities tended to increase, not decrease, cost per square foot.

The plan had to be flexible. Either the club room or the activity room had to be usable as an isolated social room with access to the outdoor barbecue. Construction is concrete block finished with an exterior cement brush coat; the roof is of solid wood sheathing with a white top surfacing to reflect heat. Floors are stained concrete. Sash are wood; heating is provided by individual space heaters.







Garber Sturges Photos

Top of page, game area in walled court; bottom, 30 by 40-ft activity room seen from 20 by 20-ft club room. Ceiling between the exposed wood trusses is acoustical tile

SCHOOL DESIGN IN 1952

What Is The Materials Situation, And How Can We Meet The Crisis?

By Frank G. Lopez
A. I. A.

ESTIMATED PUBLIC ELEMENTARY AND SECONDARY SCHOOL CLASSROOMS NEEDED, BY YEARS*

School year	Estimated public elementary and secondary enrollment	Classrooms needed			
		To house increase	For normal replacements	To reduce backlog	Total annual need
1950–51	26,259,000	.....	.....	.....	.....
1951–52	26,907,000	24,000	18,000	36,000	78,000
1952–53	28,329,000	53,000	18,000	36,000	107,000
1953–54	29,610,000	47,000	18,000	36,000	101,000
1954–55	30,722,000	41,000	18,000	36,000	95,000
1955–56	31,484,000	28,000	18,000	36,000	82,000
1956–57	31,966,000	18,000	18,000	36,000	72,000
1957–58	32,251,000	11,000	18,000	36,000	65,000
7-year total	.....	222,000	126,000	252,000	600,000

** Source: Ray L. Hamon, Chief, School Housing Section, U. S. Office of Education; published in "School Life," November 1951*

WHEN you get right down to cases, this crisis in school construction is nothing new, except as it has been accentuated by the concurrent and continuing mobilization crisis. The causes are now of a different nature, more acute and possibly more drastically limiting to architects, educators, and material or equipment suppliers; but the end result is actually just the addition of another — though a very serious — set of obstacles in the way of designing adequate schools.

To be specific: almost never since the tag end of the depression, when schools began again to be built, has an architect had a free hand in design, or has the educator gotten built all the space he needed. School boards or building committees have seldom been able to get either all the money or all the public comprehension of their aims they have wanted. We have had constantly to hunt for less expensive structure, materials and equipment; mounting construction costs have forced school design into this channel. The School Building Type studies published in ARCHITECTURAL RECORD in 1949, 1950 and since have emphasized economy as much as pedagogical demands.

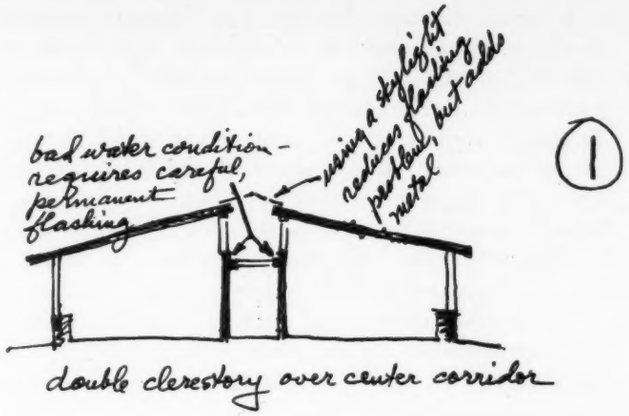
ALMOST, BUT NOT QUITE, THE SAME

The differences, of course, are that now we must economize in two ways, in dollars *and* in certain types of materials; that economies of cost may at times have to give way to saving materials. If we can't save materials we are to be prevented from building enough schools. We are no longer at liberty to choose freely among steel, reinforced concrete or wood for framing systems, to determine which will do a given job most cheaply in view of a local set of conditions. Add copper and aluminum to the materials on which we must economize, and you have a great part of the picture.

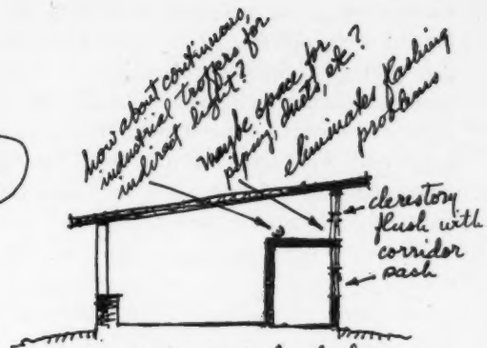
There are a lot of other factors. For instance, designing a school takes many months. It is far too costly for an architect to redesign so that out of the intimately and intricately related spatial-framing system-equipment complex of a modern school is squeezed every possible ounce of critical material; he can't afford it, and his client can't pay him for the extra work involved. Again, a tremendous backlog of needed construction has been building up since 1930, and our feverish school building pace since 1945 has done little to reduce it (see table). Still again, schools wear out and, though they aren't replaced often enough, some need for their replacement does have to be acknowledged. Worst of all, perhaps, is the biological fact that wars cause increased birth rates. World War II babies are now at the doors of the schools to which the law says they must be admitted, and shortly these children will be entering secondary schools (which have been built in far smaller numbers than elementary schools). The present mobilization is eventually going to increase the clamor at the school gates. Just to complicate matters, add this item: the school building problem cannot be solved by any sweeping national dictum. It is a grass-roots problem, each individual case differing from every other in respect to financing, educational demand, and suitability of materials and equipment. In this, perhaps, lies salvation.

O.E., A.I.A., D.P.A., AND CONGRESS

The United States Office of Education, though neither set up nor equipped to act as a traffic cop controlling materials flow, has had to assume exactly that function for school construction. There have been the inevitable inequities in its processing of applications; for these USOE can hardly be blamed. They would have existed to a greater degree in an agency of lesser integrity and sincerity. USOE has considered every means of improving the situation. As far as it could it has battled vigorously for more material. The American Institute of Architects' Committee on School Buildings, composed of several of the nation's ablest school architects (who have labored long and at some personal sacrifice), has been trying to formulate a technical basis on which to proceed. The public, meaning local parent-teacher groups as well as boards and committees, has made its complaints heard even in Congress (which is not surprising in a pre-election year).



double clerestory over center corridor



room and single-loaded corridor under one roof — or would such a dust-catcher create insuperable maintenance problems?

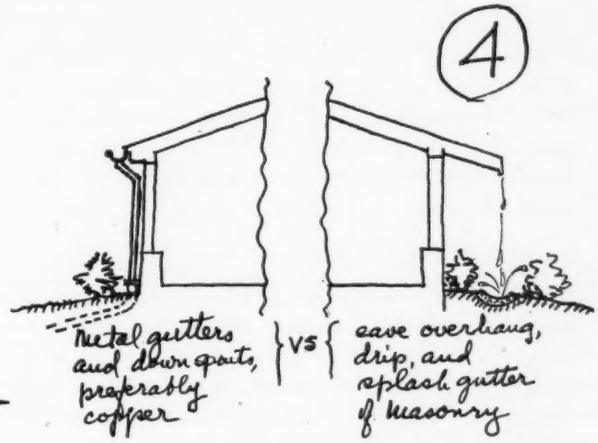


single-loaded corridor

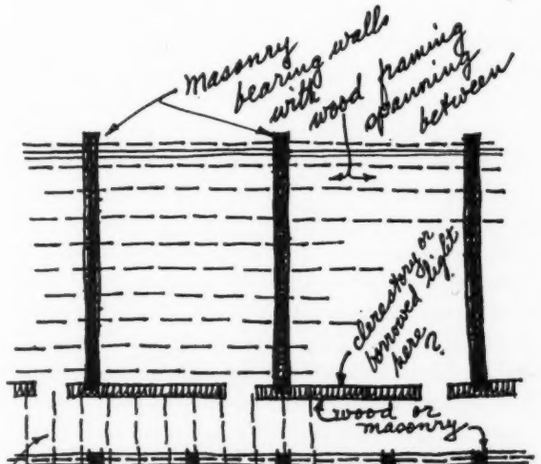
Classroom concepts can complicate - or simplify -

----flashing problems

----gutters and leaders

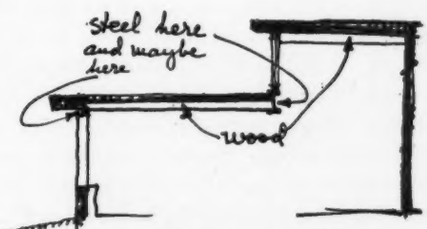


---and structural framing



corridor framing probably more economical if modular

- "end-on" classrooms; wood and masonry -



framing classroom with a clerestory

Merely to state a sequence of facts, the steel allocation has been increased by 15,000 tons for the first quarter of 1952. Though this is far from enough, it carries with it an extension of 60% of the same amount for the next quarter, 50 and 20% for each of the following quarters. Thus, approval of an application carries some assurance of sufficient materials for completing a project once it has been started. The system can cause some complications; for one thing, the advance commitments can pile up to more than 100% of future quarterly allocations, unless these are increased.

There are other straws in the wind. There is talk of, possibly, applying the self-certification principle to school jobs, up to, say, 25 tons of steel per project. This might enable architects to negotiate for local warehouse stocks, or to adapt their designs to what was locally available. On the other hand, though it might get many schools built, it might, if completely unregulated, prove too great a drain on the supply of materials; and if it were to be hedged about with regulatory measures, difficulties of operation might become greater than they are now. Also, a very serious case can be made against self-certification as a virtual opening of the flood gates; one might as well have no controls at all. There is, too, a considerable opinion, which can be persuasively argued, to the effect that by mid-1952 the steel shortage will be easing off. Proponents of this point of view cite increasing production coincident with a leveling off of abnormal demands; its opponents, not as optimistic about production, indicate also the possible changes for the worse in the international situation.

ALUMINUM AND COPPER, TOO

While there is every sign that aluminum production, now being increased as fast as possible, will in time catch up with demand, not so much can be said for copper. The United States does not produce enough copper, we hear, and that is a most serious limitation on school work. Reportedly, aluminum wire can be substituted for copper as an electrical conductor only in the larger gauges; wire sizes normally used for lighting and convenience circuits appear to demand copper. Considering the emphasis placed on high-level artificial illumination, the need for current for audio-visual aids, and the like, this becomes an onerous shortage.

It has been hopefully suggested that perhaps one row of lighting fixtures, that nearest a window wall, could be temporarily omitted from each classroom. The problem is not as simple as that. Can standards be so arbitrarily lowered? Would it be better to wring out of all circuits every possible surplus bit of precious copper? To insist that circuits be run in the most direct fashion, not bothering to "square" the corners of runs? To reduce the number of convenience outlets? To explore potential savings in such devices as remote-control switch-wiring between switch and outlet? The same reasoning might be applied to layout of piping systems. A short supply of copper means a shortage of brass goods, and this in turn means a shortage of hardware. Anything that can be done to reduce the hardware required will help decrease the difficulties.

A copper shortage also affects spatial and structural design concepts. One can so organize space within a school building, and so devise structural overhangs, clerestories, corridor roofs, etc., that a minimum of flashing is required. One can design in wood, even to employing wood sash superlatively well. This may not always be a totally satisfactory solution, but we are going to have to do more of such things. We are going to have to explore fully the potentialities of utilizing a room shape which may induce natural ventilation, with the object of reducing the load on artificial ventilation equipment. We are going to have to study the advantages and disadvantages of using small boilers, for instance, to heat each of several groups of rooms, one, two or three to a group, rather than one large installation to heat an entire school.

In all of this we are inevitably going to find ourselves, at times, in conflict with codes and prejudices. Not many codes are flexible enough to admit all these practices. Yet, curiously, many state school building authorities are willing to accept one-story, semi-fireproof or non-fireproof buildings (provided there are direct exits from classrooms); while local building committees will insist upon structures more costly in money and critical materials because they think them proper.

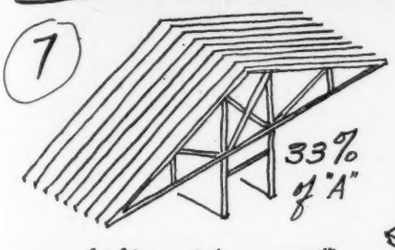
SOME PROPOSALS ARE REALISTIC

Other suggestions besides the omission of some lighting circuits have been proposed, some of them realistic and some betraying ignorance. If we eliminate gymnasiums and auditoriums (and by inference cafeterias), we hear, we may be able to build as many classrooms in 1952 as in our peak year, 1951. Well, the gym is not a luxury, it's an instructional space. The cafeteria is a necessity in any school which has a bus transport system. The object of the suggestion, one would guess, is to save framing steel. What about the use of wood trusses, prefabricated or job-fabricated, of solid timbers, or laminated, or with a stressed plywood skin? These need virtually no metal! A great deal can be done, and undoubtedly will, in the way of remodeling or renovating existing structures, and of building additions to schools in such fashion as not to require the full amount of wiring, piping, ductwork, etc., which a completely new structure would demand. If work of this nature can be done in such a way that it does not saddle a community for another quarter century with a perpetuation of a long-since outmoded building, remodeling or additions can help alleviate conditions.

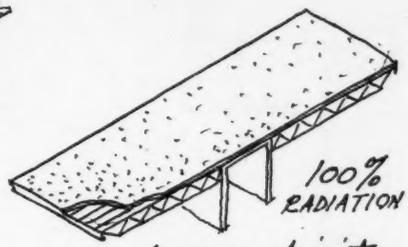
We intimated previously that in the fact that each school building presents its individual problems, and that each architect of a school building has his individual method of attacking them, might lie salvation. Certainly no agency is going successfully to promulgate a set of rules for school design. We know of architects who have recently built schools which are good in the light of their own circumstances for as little as $4.50 to $7.50 per square foot. If architects can economize on dollars so well, they can surely economize on steel, copper and aluminum.

Structural devices

(7)

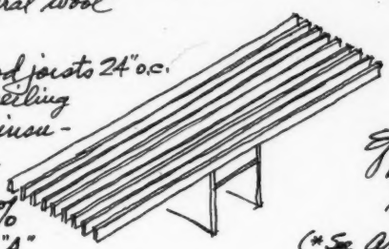


B - light wood trusses 24" o.c. gypsum board, painted 4" mineral wool



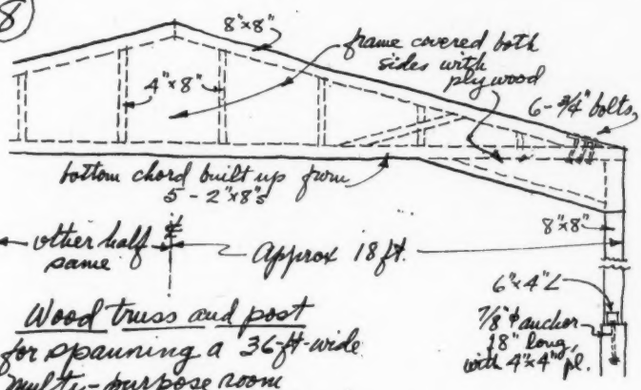
A - open-web joists, 2½" slab, plaster ceiling, board insulation

C - wood joists 24" o.c. wood ceiling board insulation



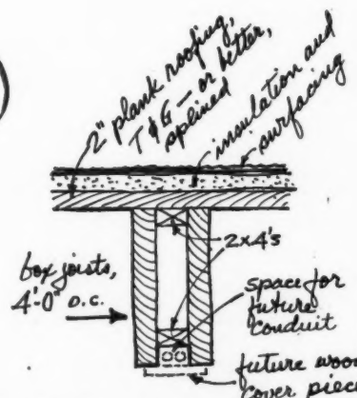
Effect of structure on radiation requirements*
(*See April, 1950 issue)

(8)



Wood truss and post for spanning a 36-ft-wide multi-purpose room
(in effect a rigid frame)
Note use of plywood stressed skin!

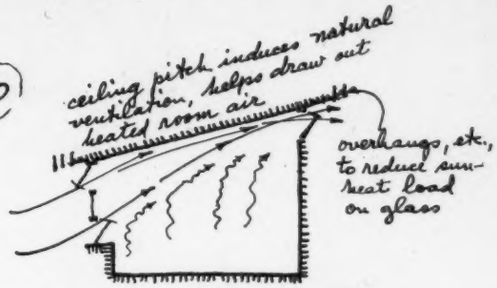
(9)



Mill construction - for one-story schools

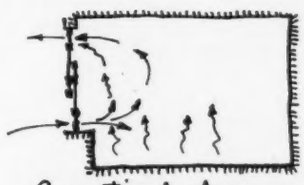
Equipment

(10)



Shape and fenestration of classroom utilized to reduce ventilating load

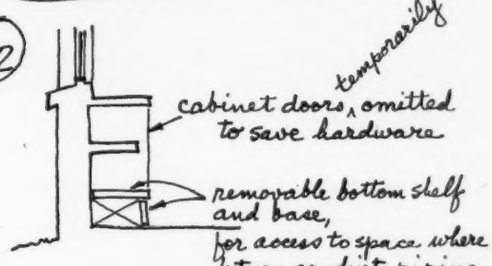
(11)



Conventional classroom shape and fenestration does little to employ natural ventilation, relies mostly on artificial means

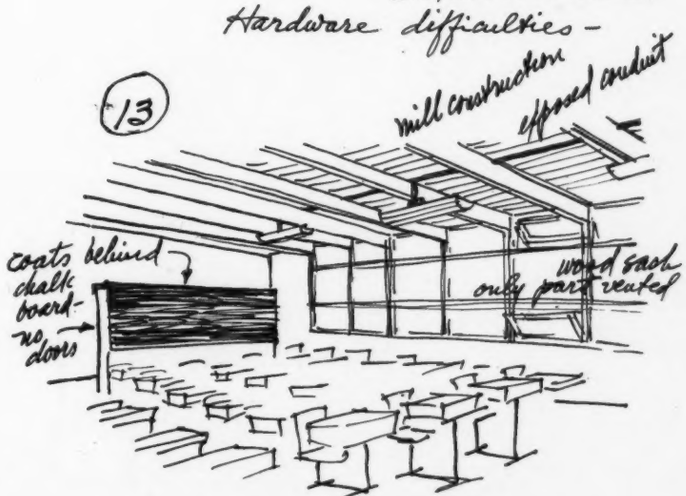
Hardware etc.

(12)

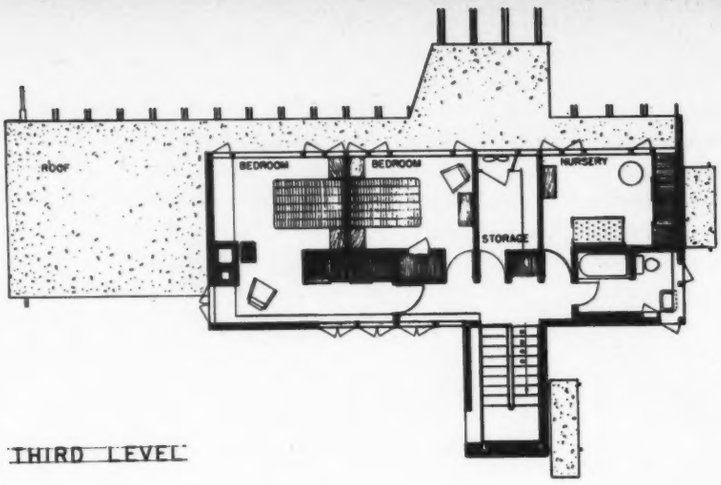


Hardware difficulties -

(13)

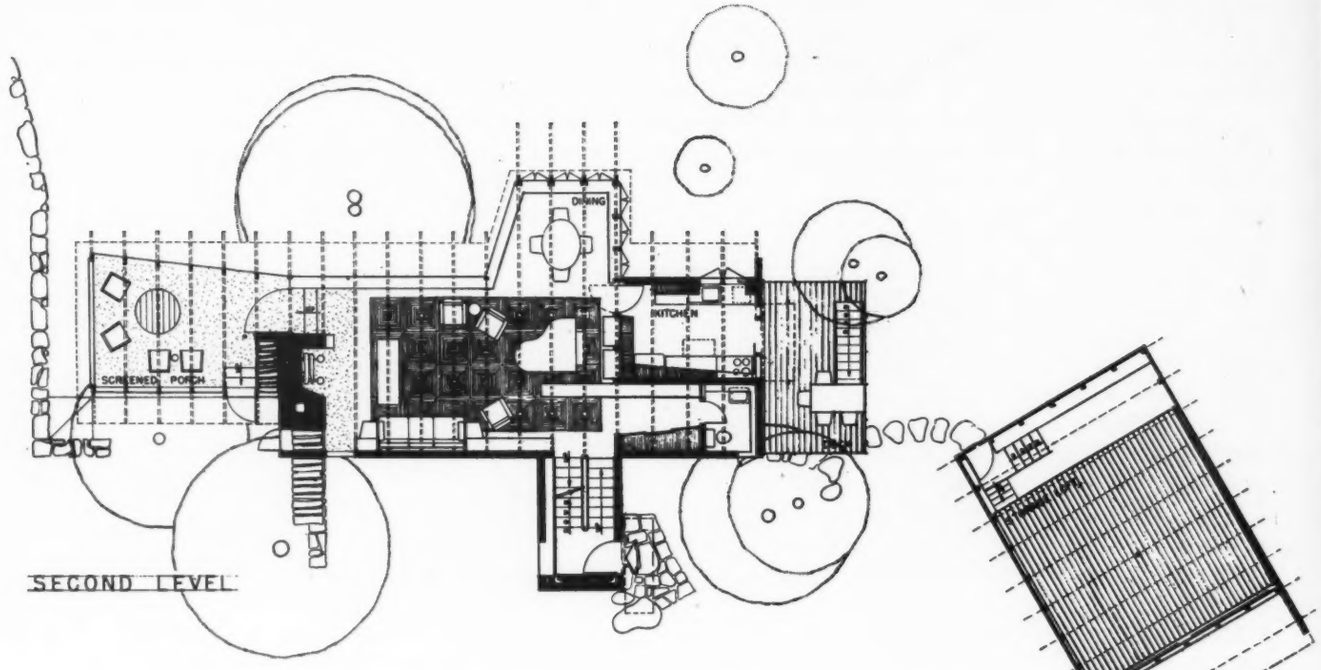


Several means of cutting use of metals
(See April 1950 issue)

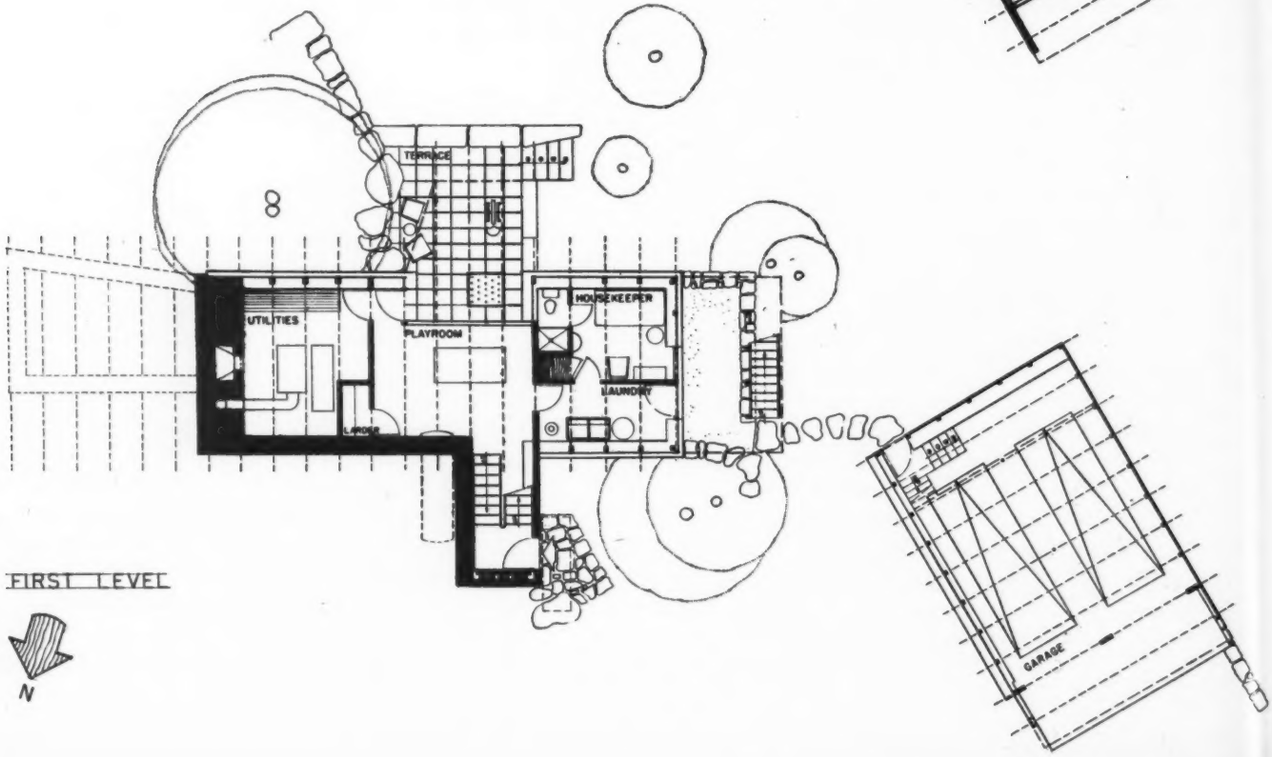


THIRD LEVEL

The steep site, with its one location precisely right for overlooking the southerly view of meadows, small pond and distant hills, dictated a vertical house. Small photo taken from end of garage shows main entrance at left, and outdoor stair to service porch which doubles for outdoor dining and nursery



SECOND LEVEL



FIRST LEVEL

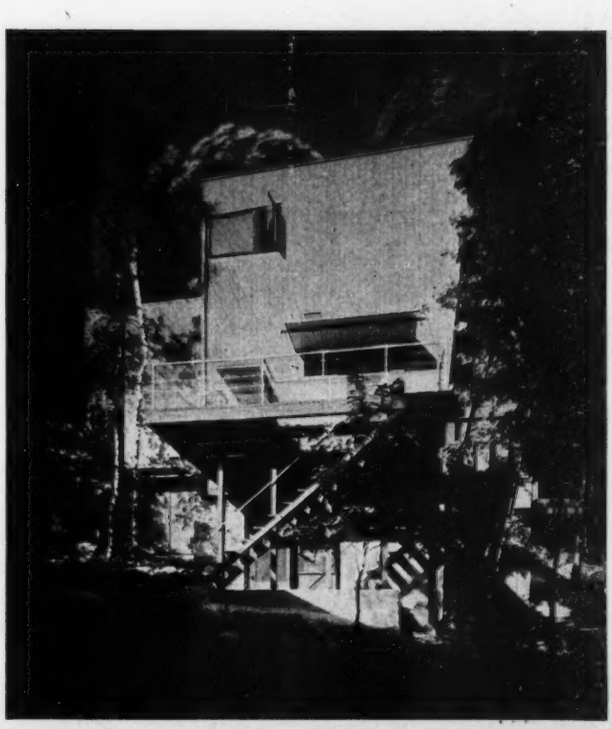
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Ezra Stoller: Pictor

HOUSE FOR
MR. & MRS. CHAUNCEY RILEY
NEW CANAAN, CONNECTICUT

Chauncey W. Riley
Architect



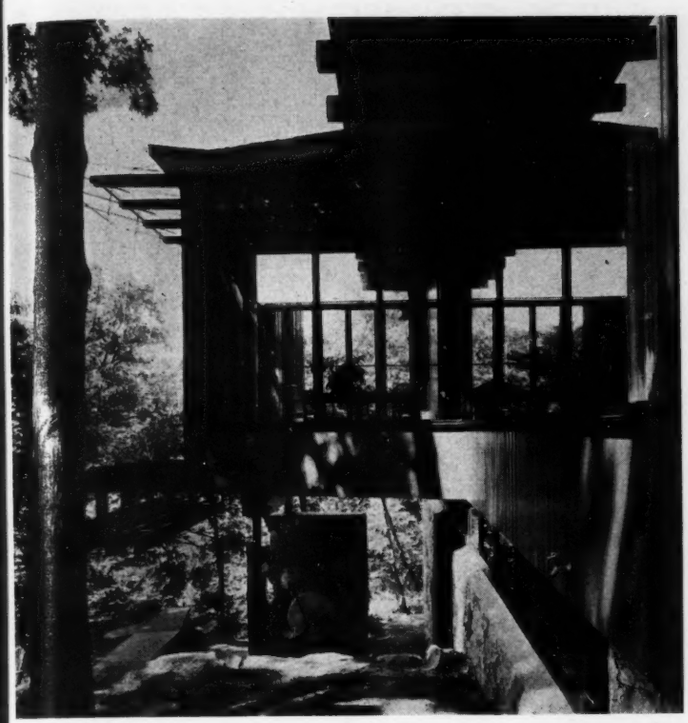
JANUARY 1952





Above, left, exterior from south showing screened porch at east end under trees; center, dining bay, looking along glass wall of living room; right, dining bay and wall beneath shelter the terrace. Below, left, living room with screened porch beyond; center, kitchen; right, looking toward dining bay and kitchen



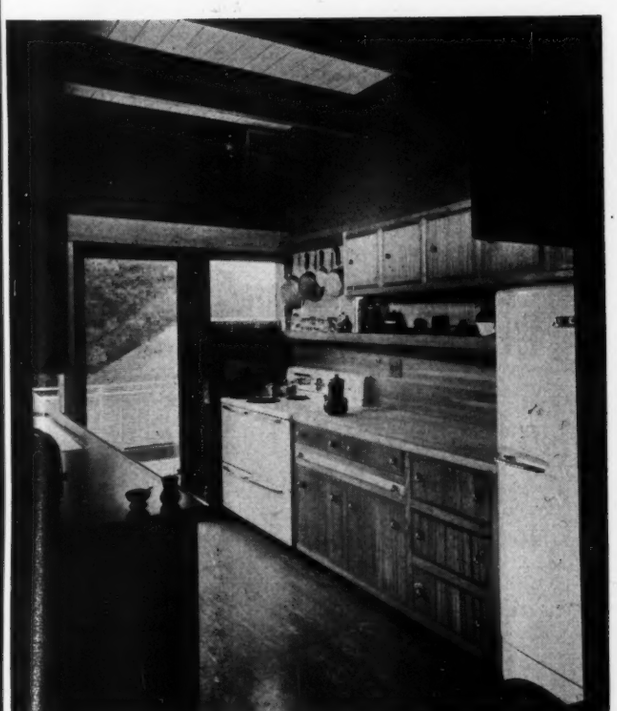


Ezra Stoller Pictor

"My client," says Chauncey Riley, the architect of this house, "was Mrs. Riley." She and Mr. Riley both commute to New York, which rendered essential quick access to the garage and thence to the highway. Although the site and view demanded a vertical house, the ease associated with one-floor houses was appreciated, and so the stairs were designed to attain complete comfort. This is the reason the stair hall (see next page for details) was taken outside the house proper.

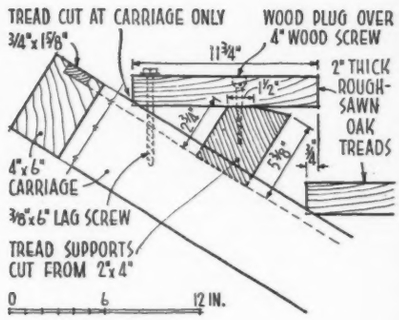
Woody growth on the site was carefully thinned so the deciduous trees would provide summer shade but not obstruct winter sun; the moon, the Rileys discovered, is highest in midwinter, lowest in midsummer, and this reverse of sun positions makes moonlit evenings enjoyable all year. On summer evenings, also, there is constant movement of air down the hillside toward the pond below; air flowing through the screened north-south walls of the porch — its east wall is glass to keep out damp east winds — makes it a pleasant, insectless sitting place. In daytime the prevailing summer breeze is southwest, so the two walls of the dining bay facing in this direction have operating sash.

The interior was thoughtfully studied to capture within the character of the countryside. Some plywood finish was used (for instance, all kitchen cabinet work is mahogany plywood); but flooring, exposed framing members and trim are all unfinished solid fir, whose color is deepening in the sunshine. Doors are mahogany, simply waxed. Much furniture is built in; all this was thoroughly detailed. Stone found on the site forms the chimney. Exterior materials are vertical fir siding painted russet, dark green fir trim, and the same stone masonry so disposed as to blend the house into the land and its traditional stone fences.











Ezra Stoller: Pictor

Stair hall was disengaged from other elements so easy stair proportions would not be cramped. As wood adjusts to atmospheric moisture, lag screws are taken up to eliminate squeaking treads. Cantilevered nosings add to stair's resiliency. Rail is 1-in. round iron; balustrade, wire rope. Garage, below, has vertical lift doors; old architectural documents are stored on upper level



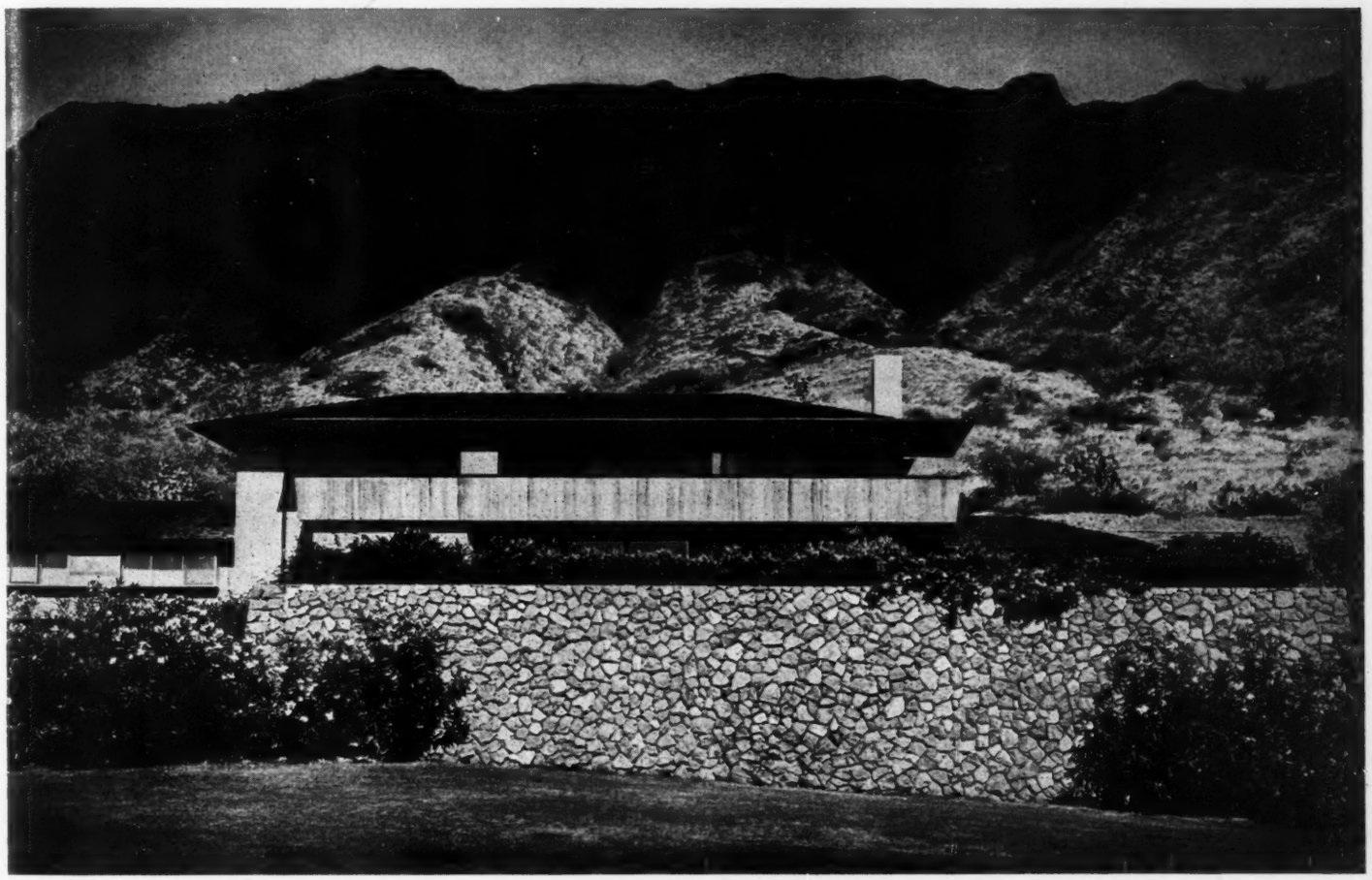
RESIDENCE OF MR. AND MRS. E. J. GREANEY

Honolulu, T.H.

Vladimir Ossipoff, Architect

R. O. Thompson, Landscape Architect

Robert Ansteth's, Ltd., Interior Decorator



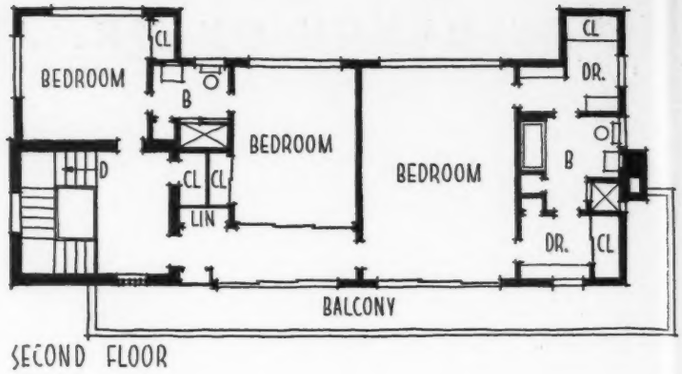
R. Wenkam Photos

IN PLAN, this house is characteristic of Hawaii, with sliding glass doors opening the main living area to surrounding lanais, or terraces. At first glance, however, it does not seem at all typical of the open architecture of the Islands. True, it has a balcony, but the high stone wall gives it a closed-in look which is surprising, particularly as the house faces the ocean. The reason is this: the house is situated on the slopes of the famous Diamond Head — slopes so steep that retaining walls were required along two sides of the property. (The stone used for the walls was excavated on the site, and the excavation in turn was used to form the lanai at the rear of the house.)

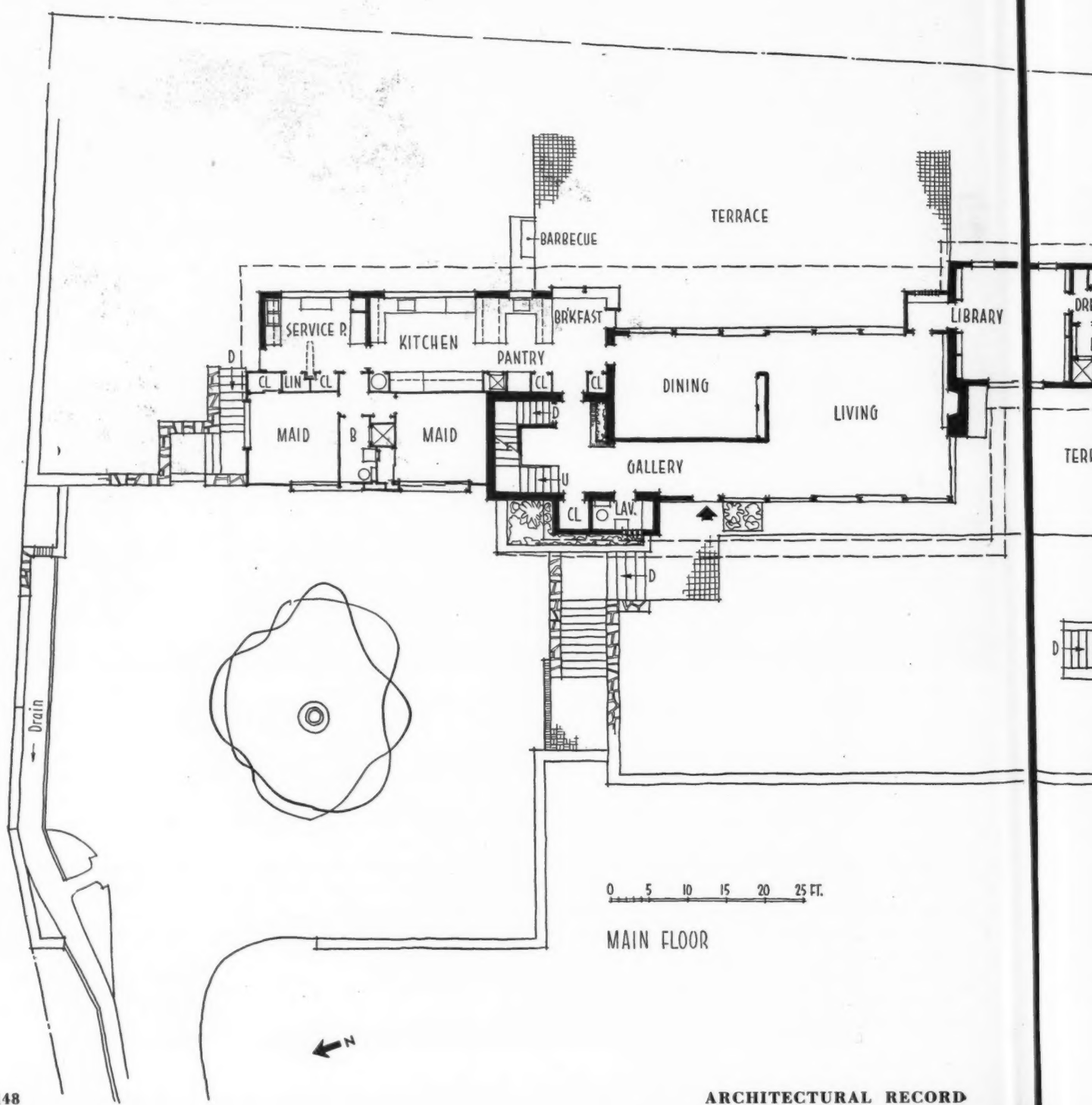
The architect obviously gave considerable thought to how the house would look against its background. As the photo shows, the horizontal emphasis, the varied levels, and the low hipped roof echo the contours of the mountain itself.

Exterior of the house is hollow cement block and rough Northwest pine which has been given a weathered finish; the tan of the pine blends with the warm dark brown of the stonework. The roof is cedar shakes, the foundation masonry and concrete. Ceilings are acoustic plaster and, upstairs, a local cane fiberboard with a pleasant texture and both thermal and acoustic insulating qualities.

The site is both steep and irregular, sloping from 132 to 116 ft along northern edge and from 138 to 106 ft along southern. Elevation of the turn-around is 118 ft, that of the house and terraces 126. Garage is under the service wing

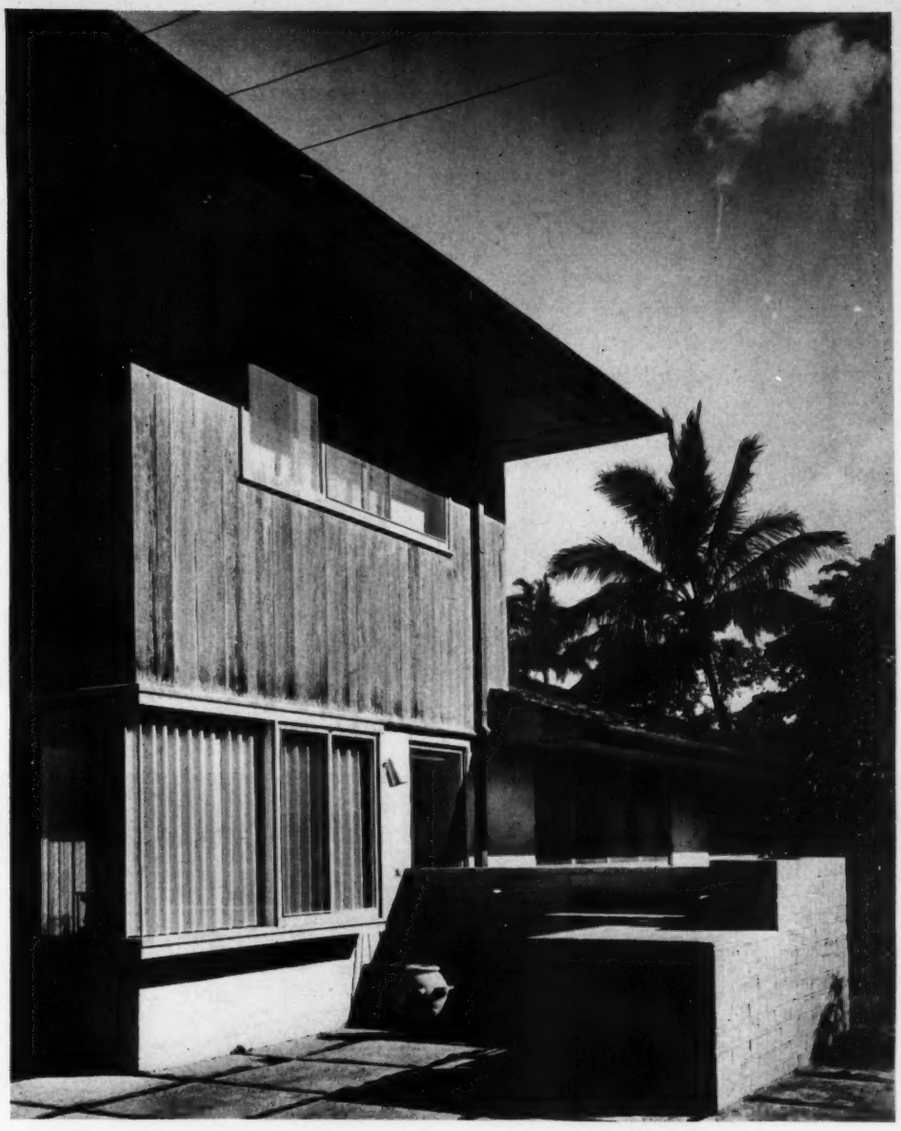


SECOND FLOOR

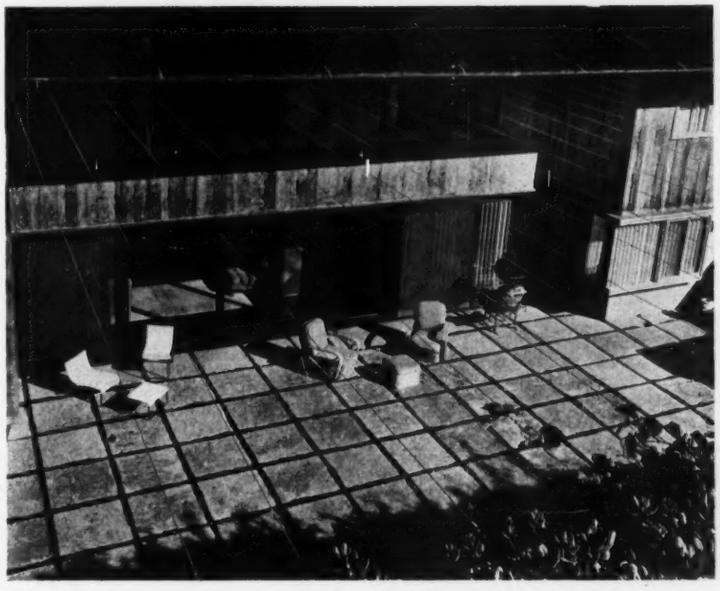


MAIN FLOOR

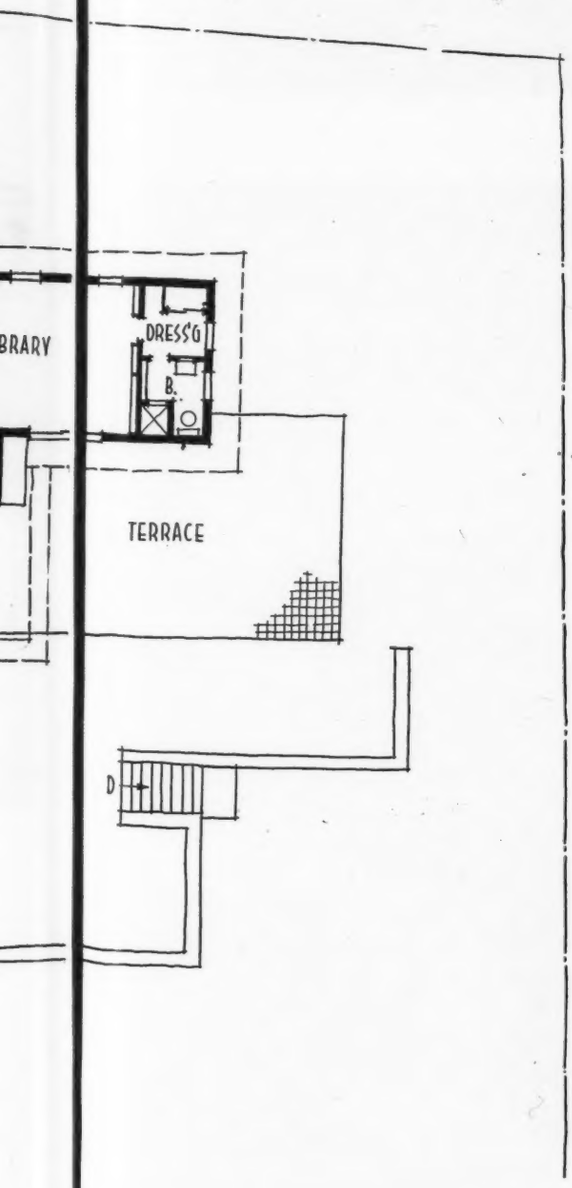
Right: barbecue is at one end of rear lanai, out of the way, but handy to kitchen. It serves effectively to terminate sitting area and shut off service wing from terrace



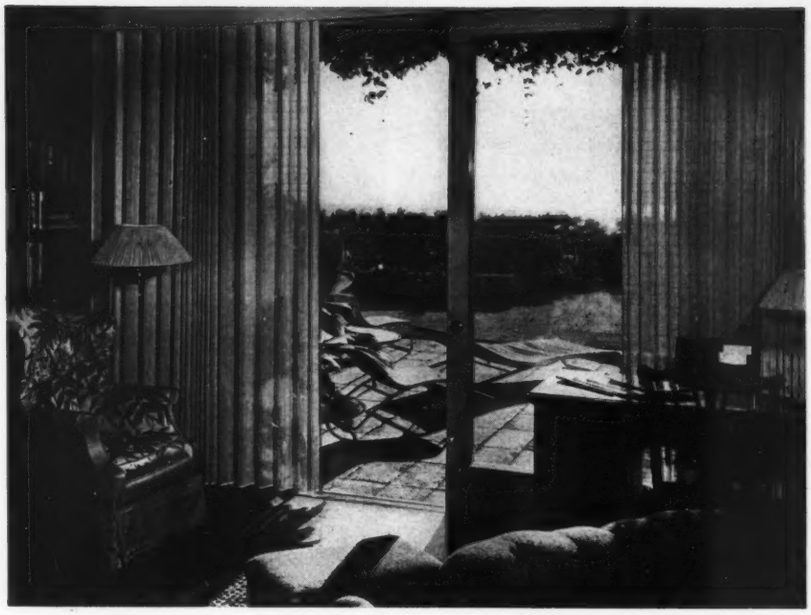
R. Wenkam Photos



Upper or rear lanai is paved with concrete blocks using a coral aggregate; joints are planted with a Japanese moss grass. Wires above are to carry vines to provide needed shade in middle of day

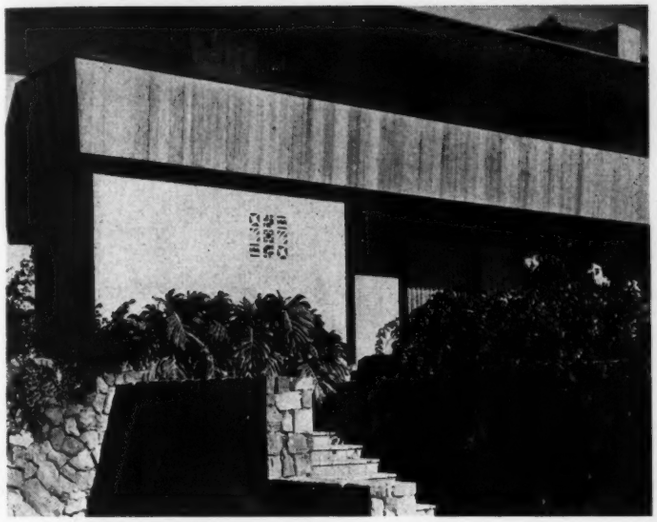


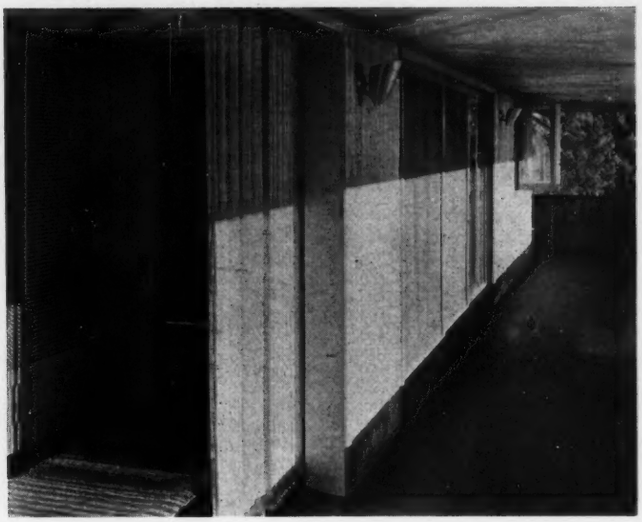
Sliding glass doors in library (right) and elsewhere throughout house are hung with split Hong Kong reed. Floors are ohia, a Hawaiian hardwood. Below: another view of upper terrace, with living room at left and library at right



R. Wenkam Photos

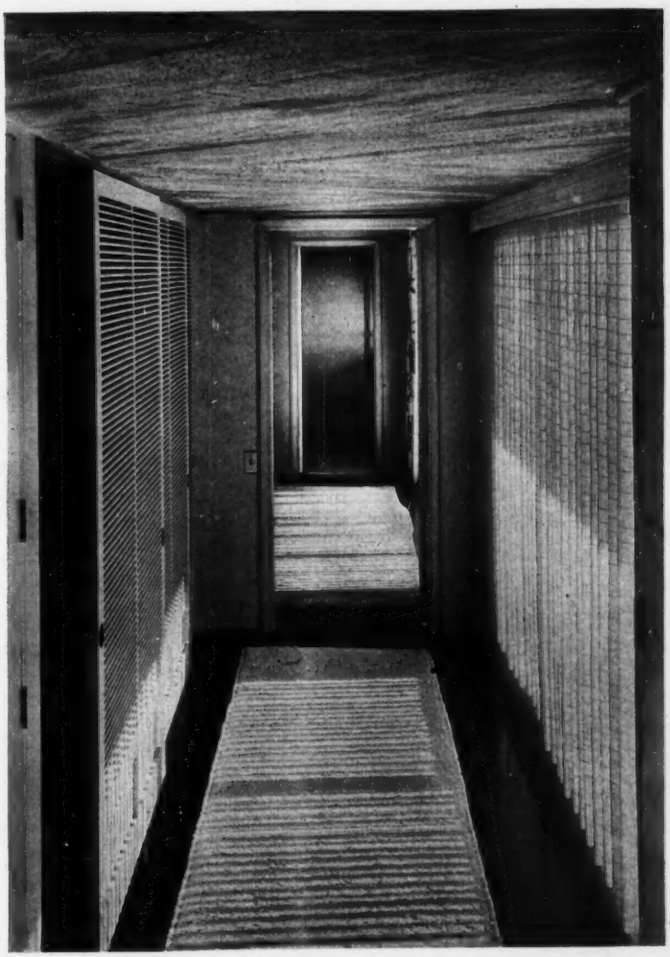






Above, left: stairs to main entrance. Below, left: living room from entrance hall; floor here is black rubber tile, fireplace is gray marble. Above and below, second floor hall has sliding doors to balcony. Note louvered sliding doors of center bedroom, which has only one exposure



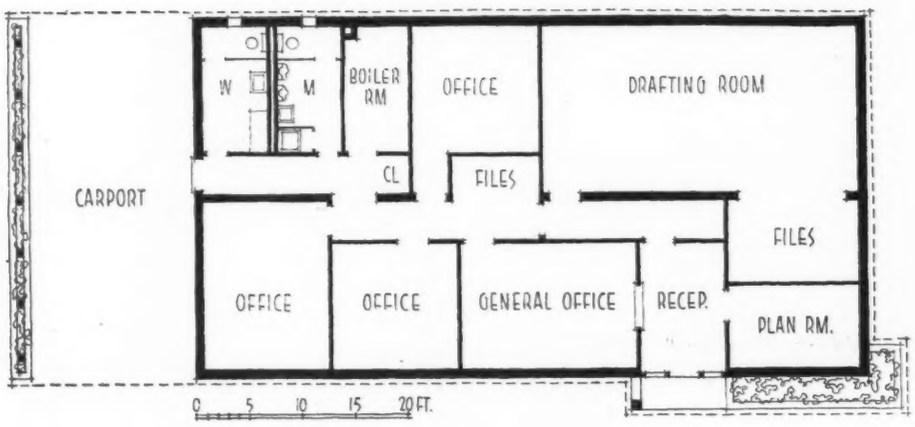




WINDOWLESS OFFICE FOR AN ENGINEER

P. L. Davidson Office Building, Greensboro, North Carolina

Charles C. Hartmann, Architect



The omission of windows in this compact, trim office building serves both to reduce costs and lessen distraction from outside noise, and also permits flexibility in the placement of furniture along walls. Openings in toilets on plan are exhaust louvers



Joseph Molitor Photos

The only glazing used in the building is at the front door (left), where it serves to make the entrance more open and inviting. It is sheltered by a marquee and side louvers of redwood painted white

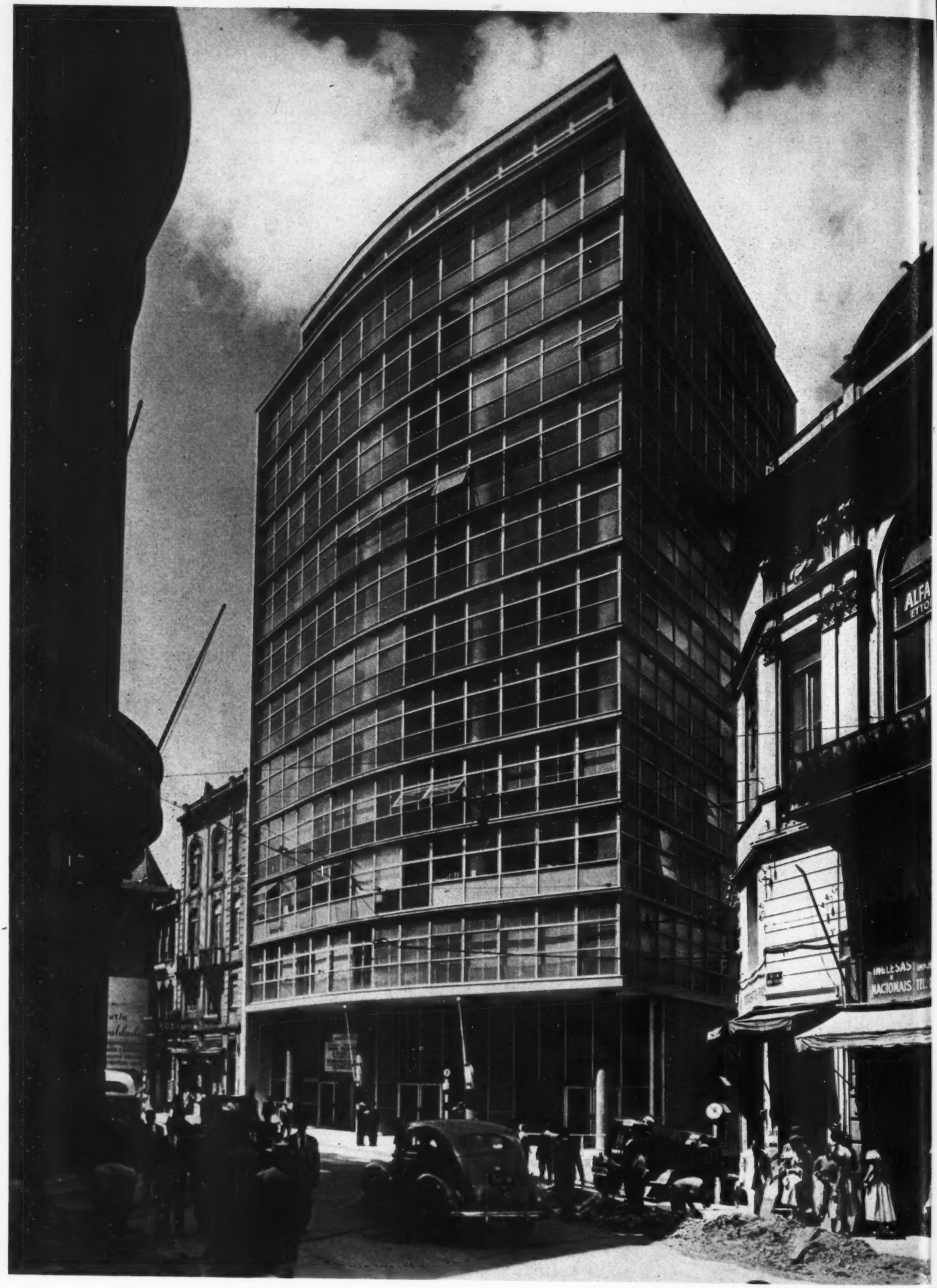


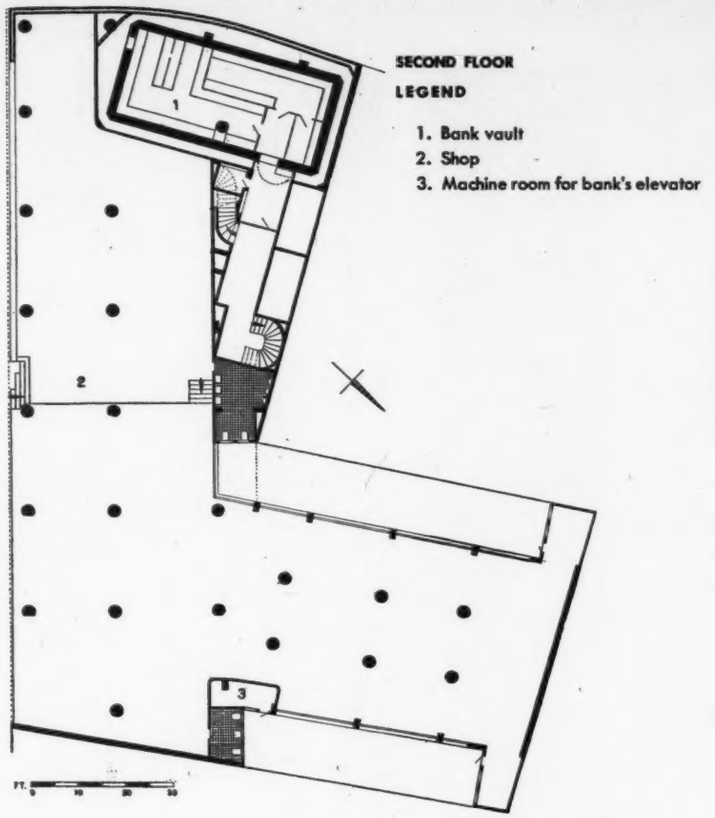


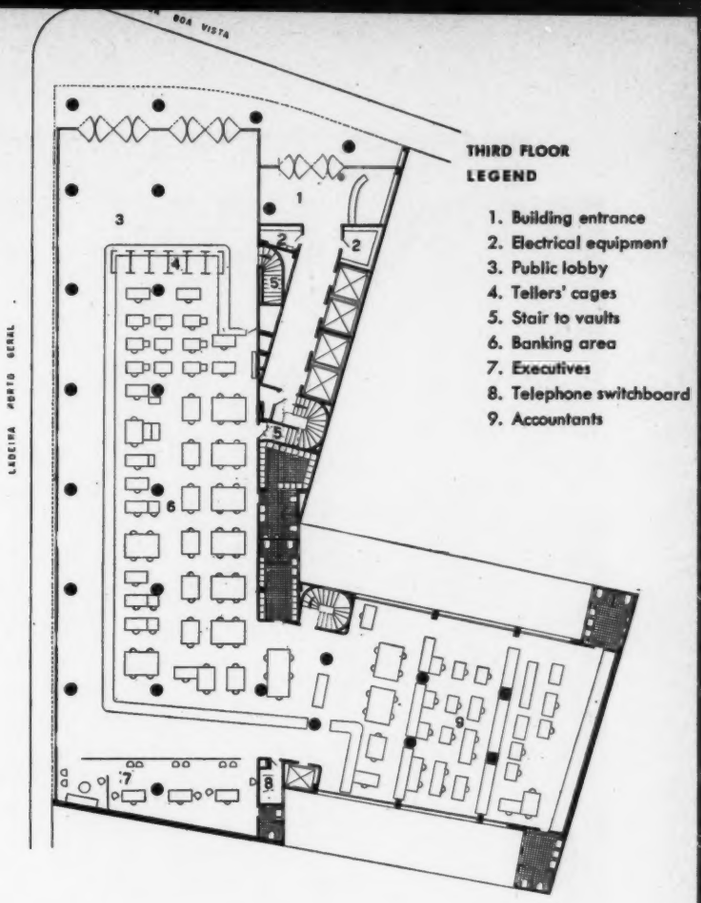
All interiors have year-round air conditioning, fluorescent lighting and acoustical tile ceilings. Partitions are painted slag block, doors and trim are metal. Above: private office. Left: drafting room

LONG AN ADVOCATE of windowless manufacturing areas, P. L. Davidson, a consulting engineer who specializes in the design of air conditioning systems, requested that his theory of a closed-in, artificially ventilated and lighted structure be applied in the design of a new branch office building for his firm in Greensboro.

The resulting windowless building has had favorable reaction from both personnel and visitors, and demonstrates a number of economies in construction and operation, a high degree of quietness and lack of outside distraction in the offices, and a considerable amount of flexibility in the placement of furniture and equipment. The office is constructed of concrete block, painted to match the brick veneer facade. The floor is a 2-in. reinforced concrete slab, laid over clay tiles set in alternate directions, and finished with rubber tile. A foamglass cold barrier goes around the slab perimeter. The use of modular planning and omission of windows in such a structure combined to give a relatively low first cost. Further savings were effected in the air conditioning and heating system — a simple one-zone system made of standard components, which uses city water for condensing purposes without evaporative condenser or cooling tower. Main ducts in furred-down corridor ceilings lead to ceiling diffusers in each room. Maintenance problems are simplified by the durable materials used, and by the lack of dust on the interior, so often introduced by open windows in standard buildings.


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OFFICE BUILDING FOR SÃO PAULO, BRAZIL

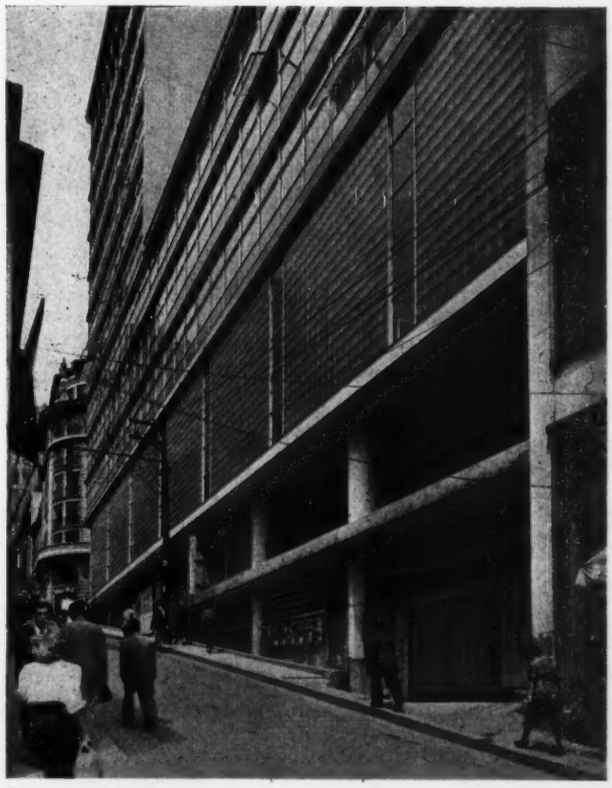
Rino Levi, Architect

Roberto Cerqueira Cezar, Associate Architect

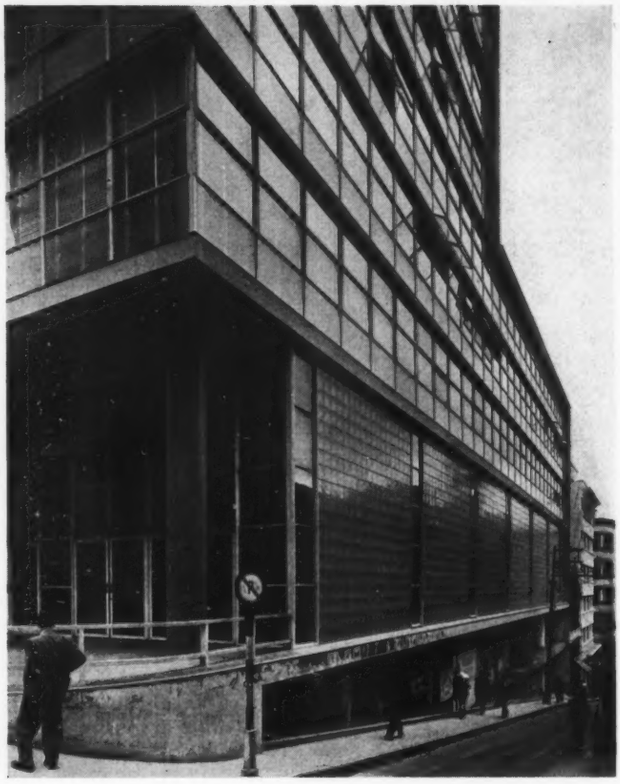
ALTHOUGH it stems from a concept similar to that of many recent structures, this glass-walled, fifteen-story office building in São Paulo introduces several well thought out planning factors which distinguish it from the average example.

The program requirements were familiar ones: a simple, easy-to-maintain building that would fill the maximum building envelope allowed by the city, and whose structure would give great flexibility in arrangement of office areas in the top eleven floors. These floors were to be subdivided and sold as cooperatives after completion of the building. A steep site which permitted street access to three floor levels led to the allocation of the two lowest for shops, and the combined third and fourth for the Paulista Bank of Commerce and the building lobby, each with main street entrances.

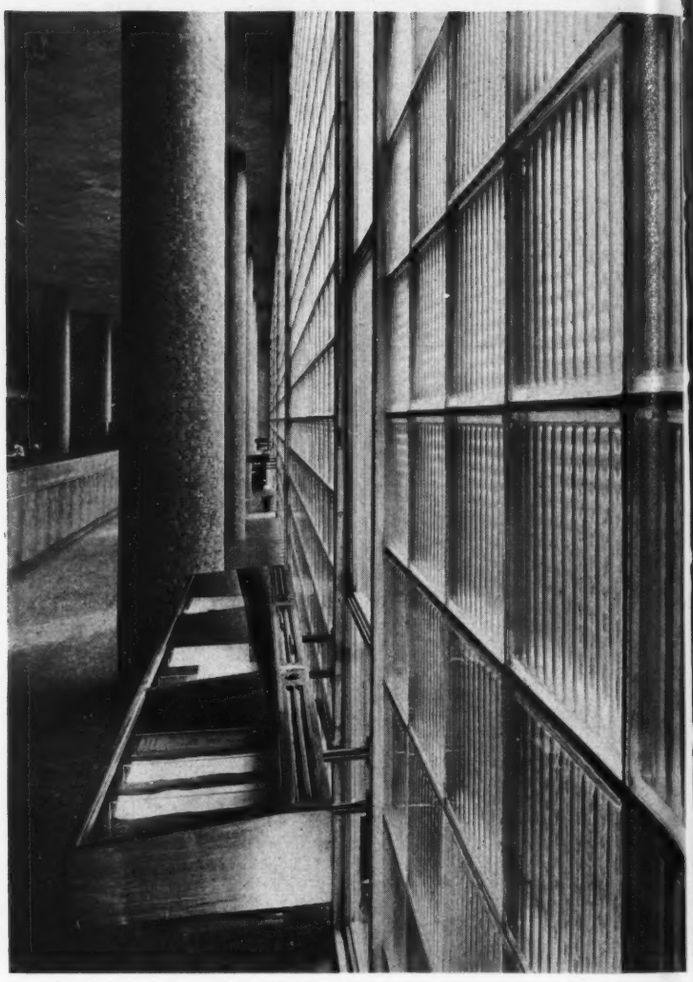
Unlike the more usual solution, glass curtain walls were used only on the sunless southern facades; walls to the sunny north are completely blank except for a section with wide overhangs in the ell. The fenestration of each floor is divided into three bands, with the lower one of fixed obscured glass protected by a wide interior baseboard which also serves as an electrical duct. The upper panes are clear and open independently for ventilation. Deft use of glass block gives privacy to the banking floor, yet preserves continuity of glazed facade.

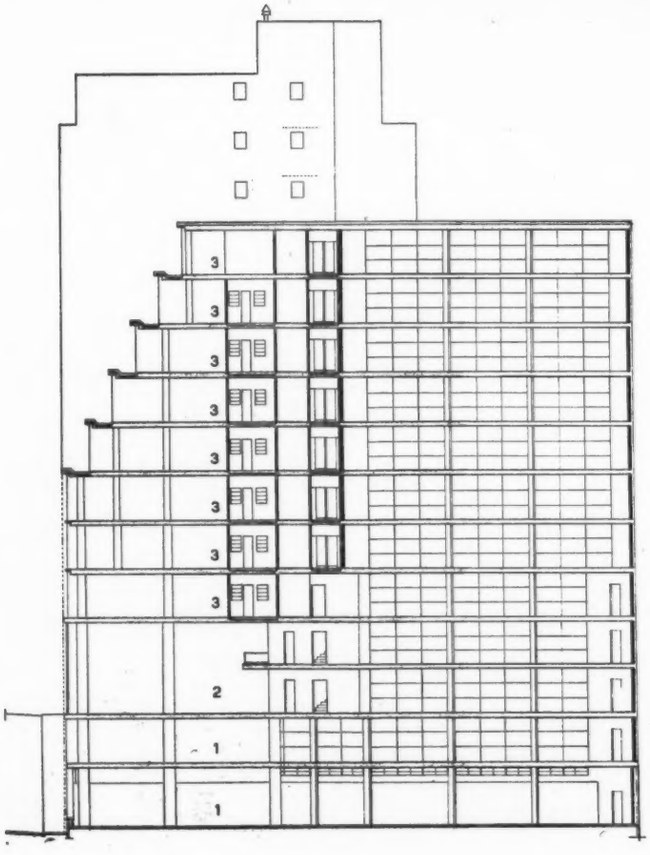


Peter Scheier Photos



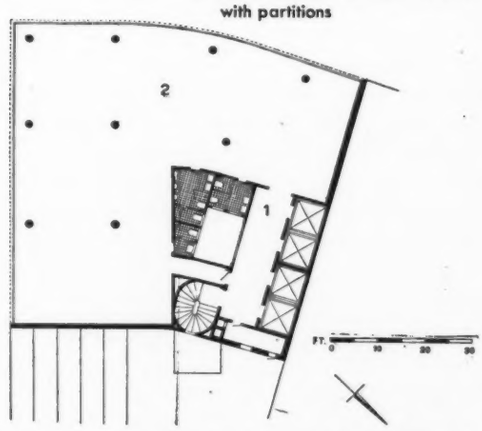
Peter Scheier Photos



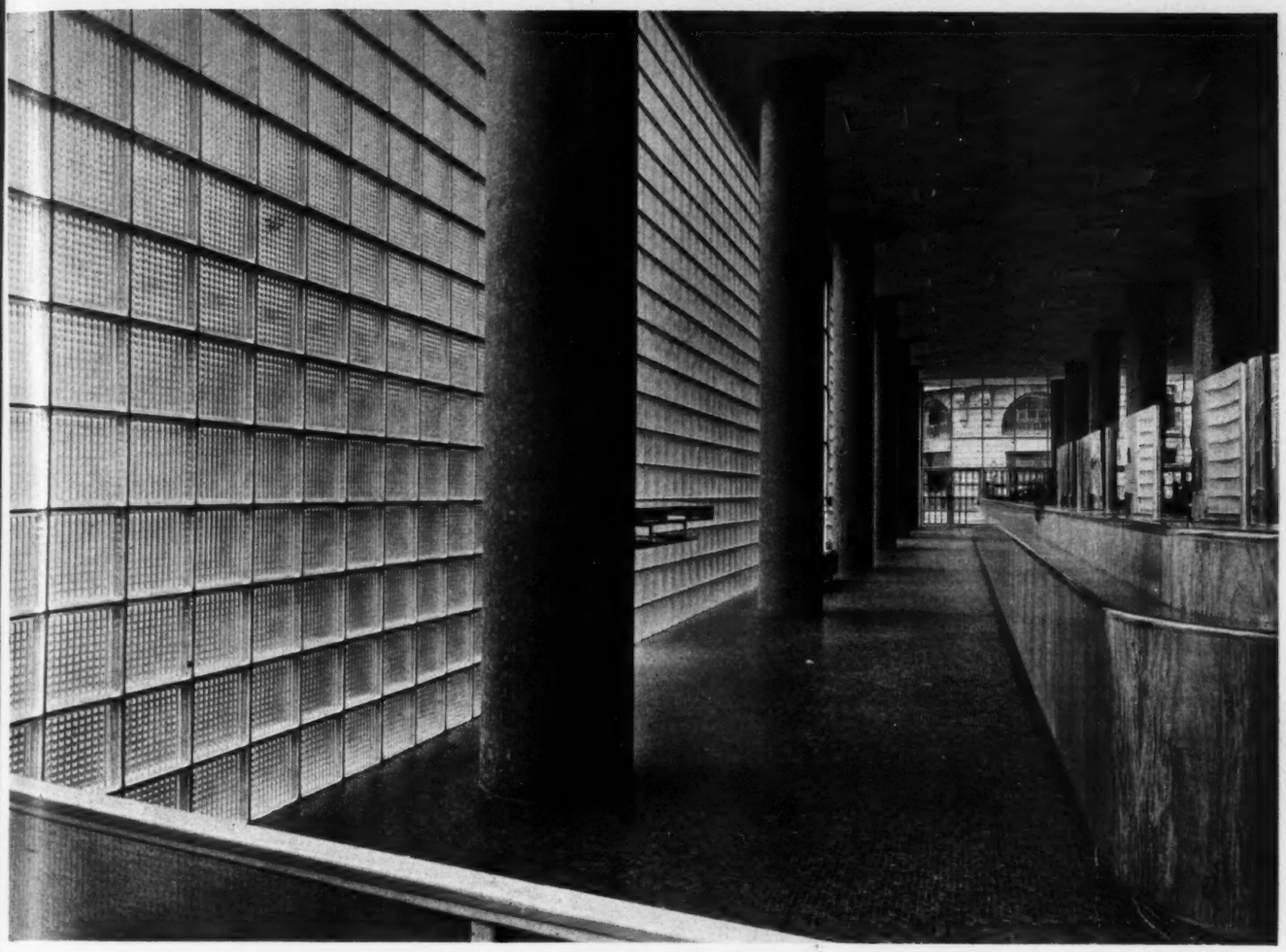


13TH TO 15TH FLOORS
LEGEND

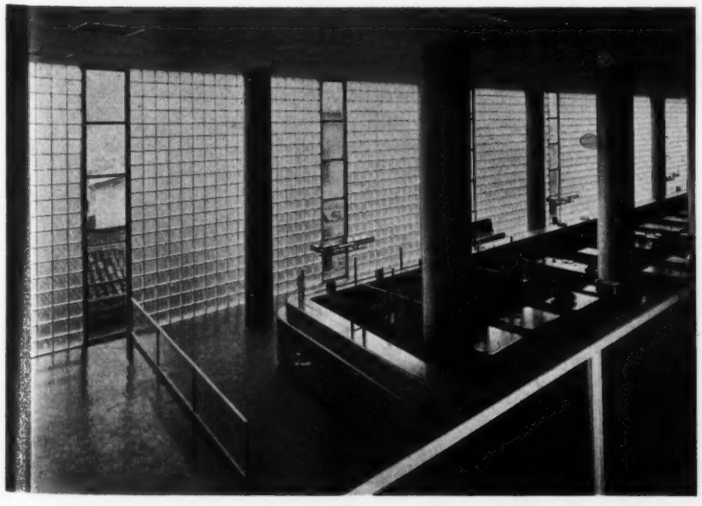
1. Elevator hall
2. Office space—to be divided with partitions



Setbacks of the building follow city regulations. The structure is of reinforced concrete, with brick used in dark areas of section shown left. Numbers indicate floor use: 1. shops; 2. bank; 3. offices. The three top floors follow plan shown above. Utilities are dispersed on each of lower floors to aid in office rearrangement



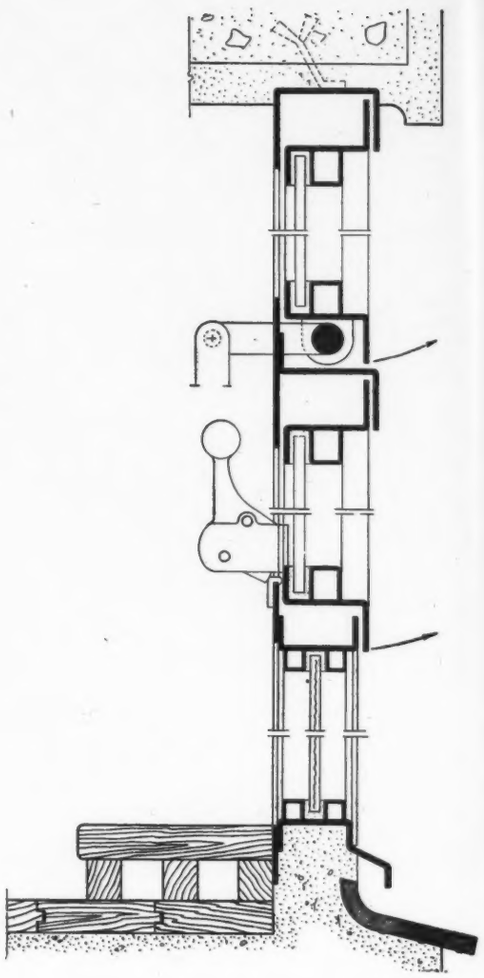
A slight extension of floor slabs on the exterior (above left) subtly emphasizes the building's structure without destroying the unity of design. The bank interior is richly finished in glass and ceramic mosaic on floors and columns; forthright screen of glass block with window insets gives privacy. Below right: mezzanine office corridor



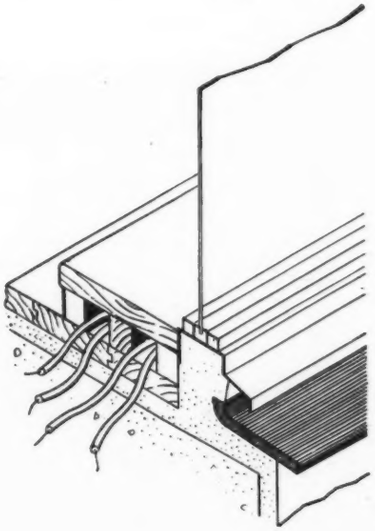




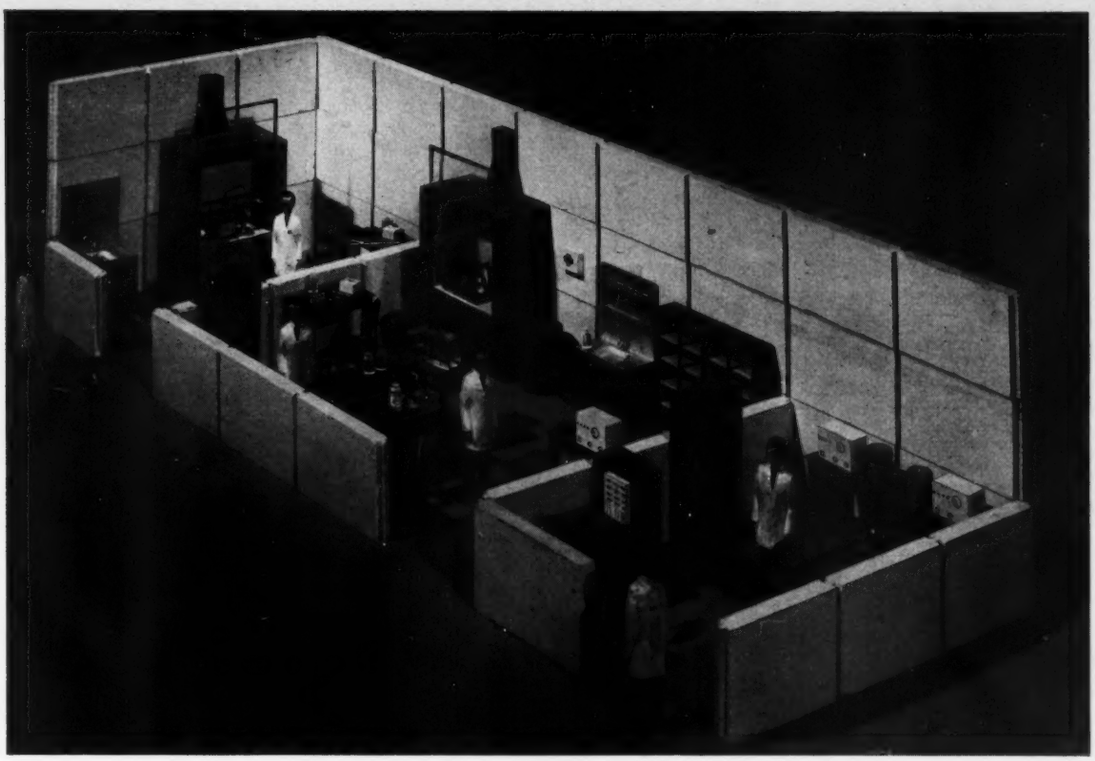
Peter Scheler Photos



Above left: typical office floor. Above right: section through window wall; bottom pane is fixed obscured glass. Below: baseboard detail showing use as electrical duct



The eleven office floors are planned to be as open as possible, with utilities and toilets ranged along the blank walls to the north. A number of features were incorporated to facilitate the partitioning off and selling of individual office spaces. These include use of regular, short spaced divisions in the windows, and the lack of projecting beams on the ceilings. As it was assumed that most desks would be placed near the window walls, electrical and telephone conduits were run through the protective baseboard, and vertically through the hollow metal window columns. The curve of the front wall follows the bend of the street below. Ceramic tile sills below the windows also serve as finishing caps for the projecting edges of the floor slabs to the exterior. All the office floors are 3.15 meters (about 10 ft 3 in.) high. Flooring is wood parquet glued directly to the concrete slabs with a special mastic.



U. S. Atomic Energy Commission, Isotopes Division

Model of a three-room laboratory to handle beta- and gamma-emitting materials. Rooms are, from left to right: high level lab, low level lab, and counting room. This plan prevents random radiations from the high level lab from registering false "counts" on the counting room instruments and minimizes the possibility of contamination

ARCHITECTURAL PROBLEMS IN ATOMIC LABS

By A. D. Mackintosh, A.I.A.

The author is Superintendent of the Department of New Facilities Design and Construction in the Division of Engineering and Maintenance at Oak Ridge National Laboratory

PEACETIME APPLICATIONS OF ATOMIC energy are coming along much faster than many people expected. Probably the most rapid development of interest to the architect is the demand for radiochemical laboratories for industrial, agricultural and medical applications. Although there is a great deal of similarity between conventional chemical laboratories and those handling radioactive materials, the concepts of laboratory design, from site planning to selection of interior finishes, have to be revised in terms of protecting personnel and equipment from radioactivity: areas have to be shielded with lead and concrete, causing heavier and more concentrated floor loads than commonly encountered; some highly radioactive wastes must be buried; large quantities of air must be drawn in through fume hoods to be sure that radioactive particles are not inhaled; finish materials must be easily decontaminated if radioactive materials are spilled.

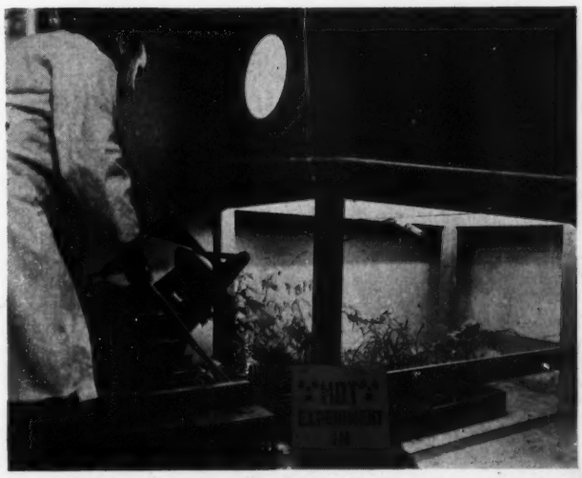
Location of Radiochemical Labs

For low level radioactive laboratories, site problems are minor; in fact, they are no different from those encountered in conventional chemical laboratories.

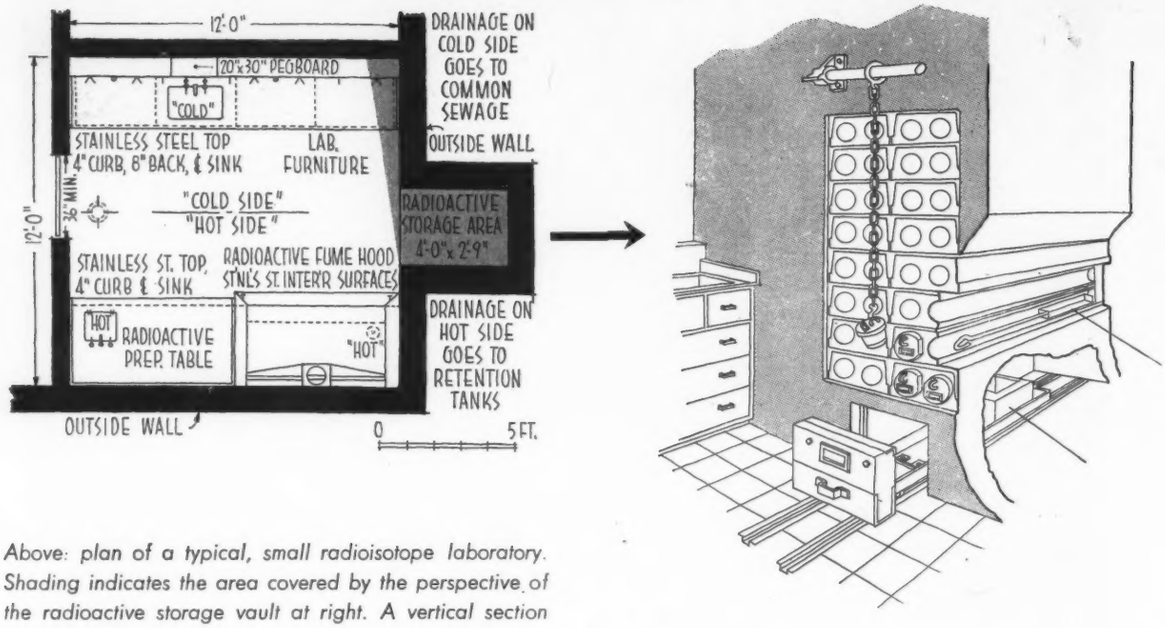
For high level work, the site selection and orientation of buildings is of great importance. Prevailing winds will govern locations of the hotter facilities and their vent stacks. These stacks must be placed down-wind from the areas of lower activities, to prevent contamination of the areas of less than normal background.

Normal Activity (background) **refers to the level of radiation ordinarily encoun-**

Brookhaven National Laboratory Photo



Research is being conducted in "hot" labs throughout the country to discover how radioactivity effects plant life



Above: plan of a typical, small radioisotope laboratory. Shading indicates the area covered by the perspective of the radioactive storage vault at right. A vertical section through the storage vault is shown across the page

Drawings Courtesy Kewaunee Mfg. Co.

tered from natural sources and from cosmic rays that reach the earth's surface. "Hot" (high level activity) is used when referring to anything contaminated by, or possessing properties of, radioactive materials. Likewise, "cold" is used when something is not "hot," and "warm" indicates a low level of activity. The word activity refers to various types of radiation.

Ground slope must be kept in mind in order that surface waters will not carry possible contamination, deposited by foot traffic, from the areas of higher activity to areas of lower activity. The water table flow should not be permitted to carry any possibly "warm" waste toward the water supply. These comments, of course, do not apply to work dealing with any of the lower levels of activity.

In all cases contamination must be localized. Potential spread of activity must be reduced by avoiding the placement of hot facilities directly adjacent to cold facilities whenever possible. "Hot" processing areas should be grouped together to simplify waste handling and to prevent accidental contamination of normally "cold" areas. It is not desirable practice to place a "hot" working unit in a "cold" laboratory.

Building Layout

When considering interior layout, a similar approach must be made with regard to all levels of activity. As far as possible all areas should be kept free and open, through the use of movable partitions, so that complete flexibility is possible with regard to initial layout, future revisions, and later readjustments. A modular principle should be adopted in order that services may be placed as indicated later.

As in considering the site layout, one should first enter into the "cold" areas and then go progressively to the "warmer" ones.

Location of Lab Equipment

In considering the location of laboratory equipment within the building, the greatest flexibility is achieved when working on a modular basis. It has been found that bays about 24 ft sq lend themselves more readily to subdivisions which will be most useful. This 24 ft chief module is subdivided easily into a lesser module of 4 ft and combinations of it.

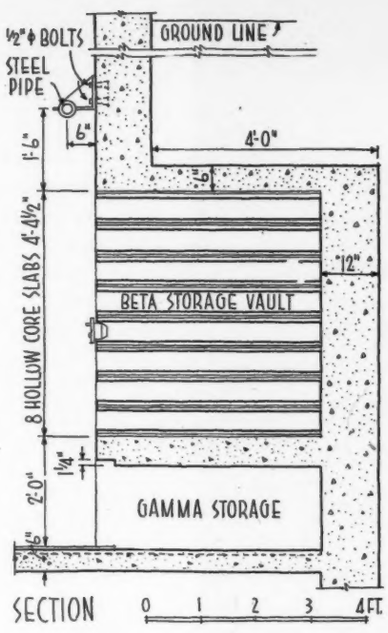
Washroom and locker facilities frequently need provision for both "warm" and "cold" use, when serving areas of highest activity. It is recommended by most health authorities that one area be provided for the storage of street clothing, and that the work clothes and coveralls which are used on the job be stored separately, in an adjacent area.

For the "low activity" level, housing work dealing with microcurie, amounts of radioactivity, it is found that very little provision must be made for these laboratories beyond that normally used in any chemical laboratory, with the exception that hoods must be available to exhaust contaminated airborne particles.

For "middle activity" laboratories, some attention should be given to isolating areas where radioactivity is handled, mainly to provide for centralized waste gas and liquid handling facilities. Traffic patterns do not necessarily have to be rigidly controlled, although "built-in" means of preventing excessive and unnecessary traffic between "cold" and "hot" areas should be provided. It will be necessary now to introduce at least local shielding, which will be placed around the equipment within the hoods; this is usually an enclosure of lead bricks, 2 by 4 by 8 in. in size.

Laboratories in which work of a "high level" activity is carried on frequently need to be surrounded by massive shielding, in addition to the local shielding in the hoods. This general shielding may take the form of 1- or 2-ft thicknesses of solid concrete blocks; these units are usually 4 by 8 by 16 in., laid dry. The use of block is more desirable than a monolithic pour, for flexibility as well as for decontamination purposes. High activity areas must be isolated from areas of lower activity.

The areas for alpha particle operations need special attention paid to



ventilation. Here dry boxes should be used wherever possible.

Radiation is the collective term for the rays and particles released by radioactive materials. When radiation passes through other materials, such as air, metal, or animal tissue, it has the property of electrifying the materials along its path. This process is called "ionization." In living tissues the ionizing effect of radiation causes the injury and death of cells. Ionizing radiation, if applied in large amounts, can do great harm to a plant, an animal, or a human being.

We are familiar with three common types of nuclear ionizing radiation: *alpha particles*, *beta particles*, and *gamma rays*. All three produce ionization when passing through other materials. Each **alpha particle** bears a positive electric charge and is the nucleus of an ordinary helium atom. **Beta particles** — which are electrons — are very much lighter and have a negative, rather than positive, charge. **Gamma radiation**, unlike alpha and beta particles, is radiant energy similar to light or X-rays. There is no associated particle and no electrical charge.

Dry Box is a term now applied to a completely enclosed work surface, which may or may not be vented by a small flow of air. Glove ports permit an operator to work through attached rubber gloves.

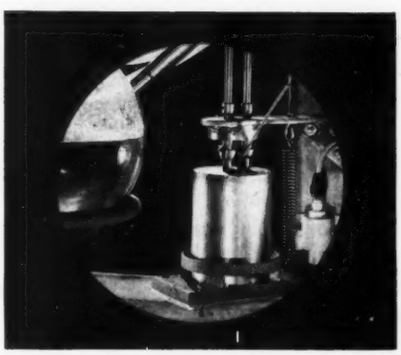
In alpha laboratories considerable danger lies in the possible contamination of personnel; the alpha particles are not sufficiently potent to get through even a sheet of paper, but their great ionizing power can cause heavy damage inside the body. One must be extremely careful not to inhale or ingest this type of radiation, nor should one permit any of this material to pass through an incision or abrasion of the skin surface. Beta particles, although they do not penetrate deeply, can cause burns if in sufficient concentration. Gamma rays penetrate deeply into the body and can cause enough damage to make a person ill, or even cause death.

It can be seen that the "warmer" the use to which the facility is to be applied, the more careful must be the approach directed toward the equipment layout and design. Not only does the shielding for instrumentation become progressively more necessary, but also the traffic pattern, shielding, and biological protective measures become more important.

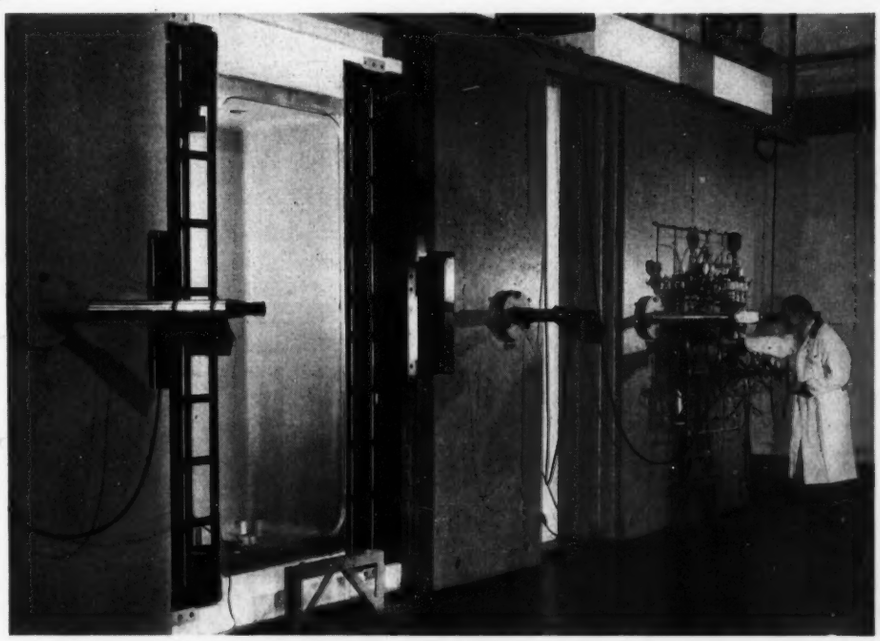
In placing equipment within the laboratories the factor of safety should always govern layout, in order not to bottle any personnel into an area from which no escape would be available in event of some disaster. Likewise, it should be kept in mind that persons entering or leaving the laboratory space should not have to make their way between rows of equipment where others are carrying on their operations.

Interior Finishes

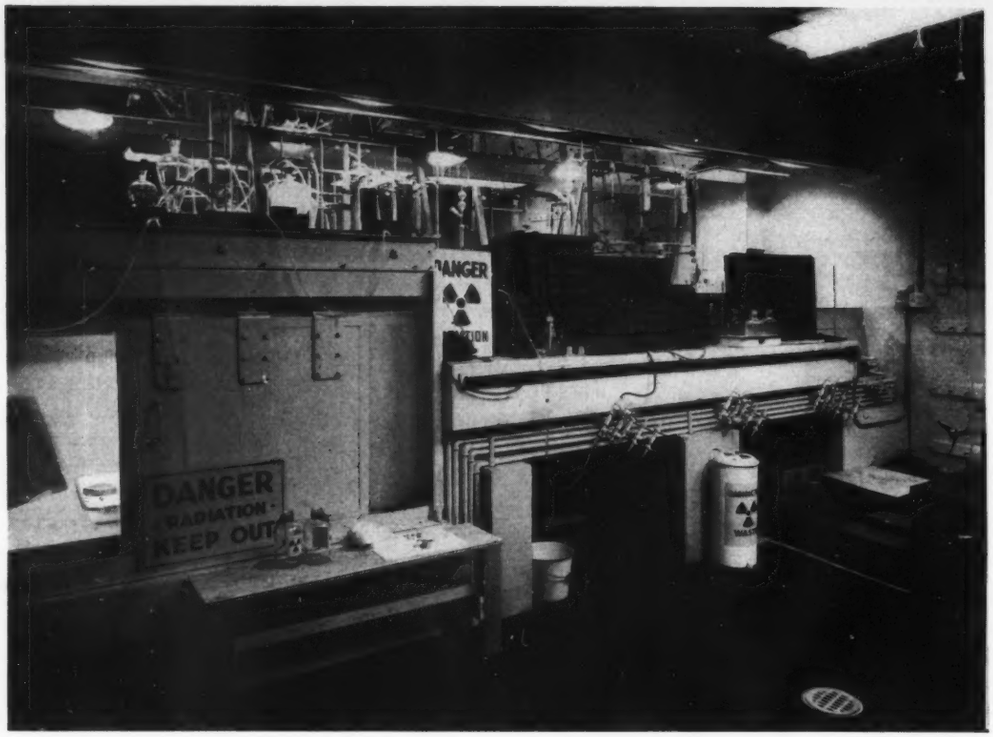
Movable metal partitions with baked enamel finish make a very satisfactory enclosure.



Brookhaven National Laboratory Photos



Experiments dealing with very high levels of radioactivity are conducted in steel "hot" cells behind 1-ft solid steel doors. The inside of the cell is painted with a strippable coating to facilitate decontamination. Remote controls are used and progress is observed through a periscope which gives a picture as shown above. The metallic vessel will be removed by remote control and placed in a special shipping shield



In this semi-hot laboratory at Brookhaven National Laboratory, two types of shielding are provided. The sliding lead door provides easy access in setting up an experiment. A barrier of lead bricks can be adjusted to suit the experiment. Mirrors along the back wall enable technicians to observe and operate equipment at a safe distance

Electronic counters are provided in "hot" labs to detect contamination and prevent it from being carried beyond lab exits



It is generally agreed that the floor covering should be of asphalt tile, or some similar material in small square sections. Although some people favor large, continuous sheets, small squares are more readily replaced when decontamination becomes necessary. Large sheets present fewer cracks through which contamination may find its way down to the concrete floor slab, but these large sheets are more difficult to cut and patch, while the cracks of the small squares may be further backed up by an undermat of paper with applied metallic foil.

Hung ceilings, with a uniform height throughout, also lend themselves to better flexibility with regard to partition location; at the same time they cover the maze of ductwork, electrical conduit, and other services.

Shielding

This is a problem the architect does not encounter in other work, with the exception of X-ray facilities for hospitals or doctors' offices. Safety is maintained by: (1) shielding, (2) distance of workers from the radioactive source and (3) time limits of exposure. Shielding is always important because the entire layout of facilities is dependent upon what materials are used, and how they are employed. There are, broadly, two approaches to shielding: "local" and "general." Local shielding means a restricted, local application of protection, confining one or two specific instruments or vessels. General shielding embraces an entire cell, room, or area.

Cell is the term applied to an area, surrounded by adequate shielding, within which highly radioactive operations may be performed by remote control.

A rough approximation as to the shielding needed may be "guesstimated" by using tables and graphs (see the graph on page 164.) Permanent shielding (dead loads) and movable shielding (live loads) may be figured with fair precision. These load figures will then indicate the positive, or negative, desirability of single-story vs. multi-story layout of various units to be incorporated.

Some shielding will probably be needed for "hot" drain lines. Vertical risers must be protected as they pass rooms below. Tanks or other storage vessels must be enclosed.

Having been introduced to the basic problems which must be kept in mind during preliminary sketch stages, we should examine more carefully the steps to be followed for installing shielding. First, one must determine the most desirable technique to be used. For small operations which may be closely confined, or for protection of instruments, local shielding will probably be used.

For more extensive assemblies of equipment, or to enclose a large number of instruments, general shielding, surrounding an entire cell or room should

be used; the cells (and even the rooms) might need labyrinthal entrances to protect against direct passage of radiation through the hatch or doorway.

Depending on the thickness of shield required, storage vaults for "hot" materials can be enclosed either by local or general shielding, or even a combination of the two.

With regard to laboratory equipment, it is well to enclose as much alpha work as possible in dry boxes; this will save much cost when considering volumes of air needed for ventilation. Beta and gamma work, which is not so "hot" as to require remote control in a cell, will be done inside ventilating hoods; a barrier of lead may be needed in the hood, behind which the work will be carried on.

Floor and ceiling slabs must be checked to see that areas below and above receive protection. Adding to the thickness of concrete slabs is the most economical way to provide this general shielding. It may be found that it is more economical to relocate certain facilities on grade because of excessive loads, especially when the movement of portable shielding is added into calculations.

Determination of Specific Shielding Needs

Let us now examine the method of determining "what" thickness is required, and of "which" material. The scientist will determine for us the level of radioactivity with which we shall be dealing.

Alpha Protection. The equivalent thickness of a sheet of writing paper will usually provide sufficient mass shielding to block the particles.

Where the dry box does not permit the operator sufficient flexibility of movement for alpha work, it is sometimes necessary to use hoods.

Beta and Gamma Protection. In providing for beta or gamma work, hoods will normally enclose the operations. The beta radiations usually may be reduced by using a transparent lucite shield of about ¼ in. thickness. Gamma rays, however, require far more mass to stop them; lead bricks are stacked between the source and the operator, with control of operations being conducted by means of bent handling devices, around or over the lead, the work being viewed by mirrors.

Local shielding is used to protect individual units within cells and rooms, or instruments outside. This is usually of lead, but might also be of iron.

General shielding is frequently placed around a laboratory in order to protect persons and instruments in adjacent areas. This is ordinarily of concrete; solid concrete blocks 4 by 8 by 16 in. give better flexibility for later revision than is permitted by the use of poured walls. Likewise, the blocks may be more readily removed when decontamination is necessary. Most shields are built to provide a radiation level of about 6.5 mr (milliroentgens) per hr.

If the level of activity is as high as one curie, or greater, the work is ordinarily carried on within a "cell," by remote control. The cell walls may be poured with a multitude of sleeves, or laid up of solid concrete block. As in hood work, the process system is vented.

Curie: an amount of radioactive material in which 37 billion nuclear disintegrations per second occur. This is approximately the number of disintegrations that takes place each second in one gram of radium. A millicurie is one-thousandth of this amount, and a microcurie is one millionth of this amount.

Roentgen: measures the amount of energy absorbed by material receiving radiation. It is a unit based on the amount of X-rays or gamma rays required to produce ions equivalent to one electrostatic unit of charge in one cubic centimeter of air under standard conditions.

Waste Disposal

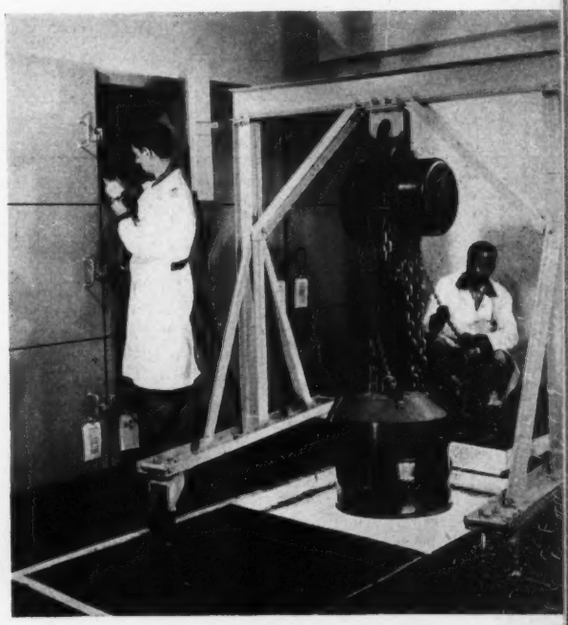
Waste disposal, with regard to vapors and liquids, varies considerably depending on the type of site which is being developed, and the level of activity. Waste gases from chemical experiments will usually originate in hoods, from which three types of exhaust are possible:

Normal Hood Air taken in through the hood door. In low activity areas, need for filtration of this air is questionable. Where only a few millicuries of activity are handled, filtration is unnecessary. However, in densely populated areas, filters may be desirable to provide "legal insurance." Gases from hoods using "tracer" quantities of activity (small amount of radioactive material added to a larger quantity of inert material of the same nature) can be discharged to the atmosphere using standard precautions for laboratory hood exhaust.

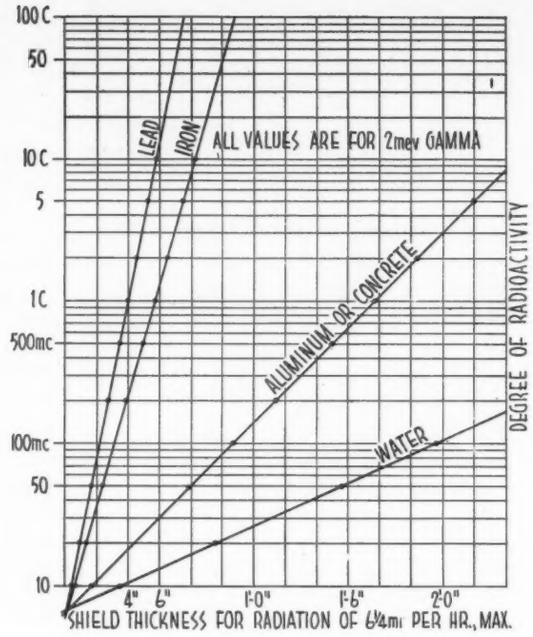
Equipment Ventilation Air. Each hood can be provided with a small (½ to ¾ in.) low vacuum line through which vent gases from sealed process units can be discharged. For higher levels of work, this line provides a small volume collection system for all corrosive and possibly radioactive gases. If cleaning is required, only a small installation for all hoods in an entire lab building is then needed. The system should be constructed of stainless steel for corrosion resistance.

Laboratory High Vacuum. Discharge of gases from this system can be accomplished in a manner similar to the

Brookhaven National Laboratory Photo



Very "hot" materials are stored beneath the floor in special shielded containers at one of the national laboratories. Other materials not quite as "hot" are placed in locker compartments



Graph gives thicknesses of shielding for various materials to reduce gamma radiation having a potential of 2 million electron volts (mev) and a given intensity in curies (vertical scale, mc is millicuries) to a recommended safe level for personnel

low vacuum system with manner of cleaning to be determined by the hazard involved.

Liquid Disposal

There are usually three main liquid disposal systems:

Normal Sanitary System. Waste from washrooms and kitchen facilities. The treatment will be quite traditional, except for hospitals using "tracers" in patients, where careful analyses must be made of waste material.

Process Waste. Essentially a normal, neutralized, chemical waste system. In the very low level tracer work, there will be no need to consider this to be more of a problem than the chemical waste from a normal laboratory. In dealing with radiochemicals in the higher levels of activities, however, process waste might be subdivided into two parts: one "cold," and one "warm." The warm process waste would then need to be retained in a bottle or tank until analysis would indicate what manner of disposal would be considered necessary.

"Hot" Drain Line. Should always be of stainless steel. There should be no traps in these lines, because of the build-up of "activity" which would take place in any traps. Therefore, all such drains should be located within hoods where they will be adequately vented. The hot drain lines will lead to a hot storage tank.

Solid Waste

Solids which become contaminated with radioactivity must either be decontaminated chemically, or collected and disposed of in a safe burial ground. Non-combustibles which cannot be decontaminated are usually buried. Combustibles can be burned provided a safe incinerator is available.

Laboratory glassware used with radioactive solutions can be washed in a normal manner, provided the waste solutions are sent to the "hot" drain system and are properly monitored before either collection or disposal.

Ventilation Supply

Heating and ventilating of the areas for radiochemical work possesses certain unique characteristics. The major portion of air to be introduced is fed directly into the laboratories. The travel of air from one space to another should always be calculated so that it moves from "cooler" areas, through "warmer" ones to the "hot" facilities.

Supplementary air to the laboratories is usually introduced first to the office areas, from which it passes into the hallways, and then on into the laboratories through the louvered slots in doors. The laboratory must have a slightly negative pressure differential in order to guarantee air movement in that direction.

No recirculation of air in occupied areas is possible, except in *separate* administrative and service parts of the building. Hence, hood design is most important in order to effect greatest reduction to air demand, while remaining within safe limits.

Air conditioning will be mandatory only in certain special areas where process and instrumentation considerations govern. In some climates it is needed to help prevent workers from picking up radioactivity.



A technician stands behind a barrier and uses a long pole to lower a sample by remote control. The health physicist (right) uses a survey meter to make sure that the technician is not exposed to dangerous amounts of radiation

CHECK LIST TO SAVE METALS IN HOUSES

By Leonard G. Haeger, A.I.A.

Building Materials Expediter,

National Association of Home Builders

The NPA method of controlling housing construction through a limitation on the delivery and use of controlled materials (steel, copper and aluminum) on a functional basis, rather than on a dollar or area limitation, marks a milestone in the writing of regulations by the Federal Government. Since the weights of these materials allowed per structure is limited, it is squarely up to the designer and his own ingenuity to stretch these amounts of materials to the utmost; at the same time, the Federal Government's objective of conservation is accomplished best.

While many of the methods of saving metals are well known, designers have made little effort to follow them in the face of liberal supplies of metals.

Here are nineteen practical methods to save metals which should be investigated by every architect and designer of residences during the planning stages.

√ **1. Steel in footings can be reduced and sometimes eliminated.** Local practice and regulations frequently require reinforcing steel in footings of small structures, regardless of soil conditions. Engineering evaluation will indicate that in many cases reinforcing of footings can be reduced considerably and frequently eliminated.

√ **2. Reinforcing mesh may not be necessary in slabs.** Local prejudices frequently require reinforcing mesh to be placed in the slabs of small houses built on the grade. Analysis will indicate that in most cases slabs can be installed without it. Perimeter insulation of the slabs and provisions to insure against capillarity are usually more important than reinforcing.

√ **3. Wood girders can replace structural steel framing.** For many years completely adequate small structures have been built without structural steel beams. As a matter of fact, the use of wood girders in basement framing in place of steel girders will tend to equalize shrinkage in those jobs in which no wood plate is used over the beam. A wood plate installed on the masonry exterior foundation wall without a similar wood plate on the steel girder is definitely poor practice.

√ **4. Reinforced masonry lintels easily supplant structural steel angles, used as lintels in masonry construction.** In most residences, two ¼ in. round reinforcing rods will be sufficient.

√ **5. Gutters and downspouts can be eliminated.** With the NPA prohibiting the use of copper for gutters and downspouts, many designers will turn towards galvanized sheet metal and aluminum. Since so many gutters are installed incorrectly, causing clogging with leaves, debris and ice and snow, the architect should consider the complete elimination of gutters and the installation of a wider hanging eave. In residential structures this practice is completely consistent with the trend toward simple, modern design. Unsightly soiling of the wall from the splash of the drip can be prevented by the use of gravel and by planting splash areas under the eaves.

√ **6. Additional insulation will keep in heat and thus save metal in the heating system.** While our designers of houses in recent years have tended towards the greater use of insulation, additional insulation will further reduce the heat loss and may make possible the use of smaller furnaces, along with less duct work or pipe.

√ **7. Crawl space heating eliminates metal ducts.** The use of the crawl space in the winter as a plenum chamber for the heating system has been successfully demonstrated. Where this type of heating system is feasible, almost all duct work can be eliminated.

√ **8. Warm air perimeter heating systems operate successfully with non-metallic ducts.** There have been many installations of perimeter heating in which

(*Continued on page 166*)

warm air is carried to and around the perimeter of the structure in glazed ceramic pipe, glazed tile, fiber tubing and similar products. The use of non-metallic duct work in these systems eliminates most of the metal.

√ **9. Metallic flashing can be eliminated.** Simple, straight-forward design of roofs can eliminate the need for flashing of valleys, hips and "trick" intersections. Obviously, much copper flashing can be eliminated by thoughtful design. Where valley flashing is absolutely required, self-flashing of roofing can be employed. The use of copper flashing of extremely long life in conjunction with roofing materials of much shorter life expectancy is wasteful practice.

√ **10. Intelligent planning can reduce plumbing.** The opportunities of planning for the conservation of materials should be first on the list of every designer. In the case of plumbing in the small house, these are: the concentration of utilities, back to back plumbing, and the location of the plumbing on the side of the house nearest the utilities (when the utilities occur in the street, place the kitchen and bathrooms on the street side of the house).

√ **11. Low voltage wiring uses less copper.** It is now generally believed that low voltage wiring saves small amounts of copper when compared to conventional wiring systems. For large houses, low voltage wiring systems definitely provide the opportunity for more utilities and switches than would be possible with the houses conventionally wired.

√ **12. The National Electric Code describes and accepts the use of non-metallic-covered wiring systems.** The steel used in armoring the cable, and the steel used in outlet and switch boxes, can be conserved. Switches and outlets in kitchens and bathrooms can be grounded for safety without grounding the entire system.

√ **13. Research back of the National Plumbing Code indicates that a high degree of safety can be obtained with much less piping.** The new National Plumbing Code, the result of research at the National Bureau of Standards and other laboratories, and written in cooperation with all elements of the plumbing industry, is a potent means of conservation. Recent studies by the Housing and Home Finance Agency indicate that the use of the plumbing code, with its simplified installation of drainage and vent piping, would conserve in terms of 100,000 small homes as much as 21,800 tons of cast iron and 3,200 tons of steel. These savings would be possible without in any way reducing the health and sanitation requirements.

√ **14. Non-metallic sewers have worked satisfactorily for many years.** The use of clay pipe, fiber pipe and cement asbestos pipe for sewerage systems outside of the house is a well established practice in many areas, yet many areas of this country require cast iron.

√ **15. Better nailing means fewer nails.** While the average house requires something like 400 lb of nails, it is believed that considerable quantities of nails could be saved each year by a simple understanding of good practice in frame construction. Frequently more nails are used than are needed and, more frequently, nailing is done incorrectly. A splendid reference on house nailing is "The Technique of Nailing," published by the Housing and Home Finance Agency and available from the Government Printing Office for 20 cents.

√ **16. Plastic pipe and tubing have potentialities.** The tremendous progress made by the plastics industry since World War II is currently being reflected in the limited use of plastic tubing in housing in some areas for water and gas service. While not all of the plastic tubings obtainable have been completely tested, some already have good installation records.

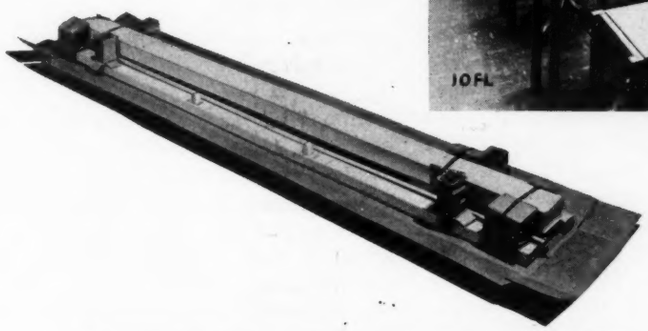
√ **17. Septic tanks need not be made of steel.** Much steel can be conserved by the use of compartmented septic tanks made of large sections of clay pipe. The United States Public Health Service studies indicate that successful septic tanks can be made out of materials other than steel and reinforced concrete.

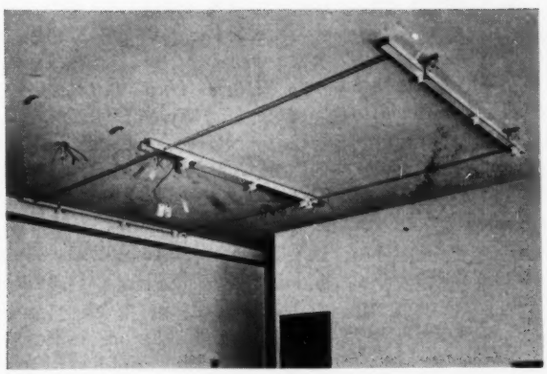
√ **18. Temporary plastic coatings on bathtubs save metal by preventing damage to them during house construction.** Coatings, applied at the shop before the bathtub is taken to the job, will greatly lessen loss from chipping of the surface.

√ **19. Modular Coordination means less waste of materials.** Much has been written about modular coordination, and it still is one of the most promising approaches to substantial conservation. Through the standardization of dimensions of building material and equipment on a uniform basis of measurement, small savings can be achieved in each of a multitude of items with the complete house a conservation project throughout.



Right: lighting levels in various parts of room as afforded by new system in typical installation. Below, top: lighting fixture comes compactly packaged. Center: lighting fixture installed, showing central channel and extensions connected by wires enclosed in tubing. Bottom: installation with baffles partly hung in place beneath lamps at back







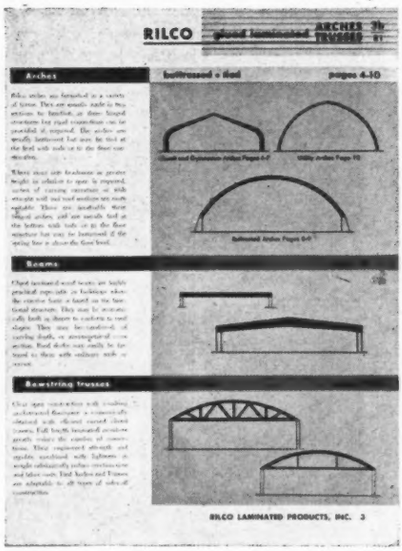
Acoustical Ceiling Lighting System

Reported to provide both effective lighting and acoustical control in a single combined installation, a new ceiling system introduced by Curtis Lighting, Inc., employs luminaires consisting of three parallel sections of channel, interconnected by four lengths of ½ in. tubing and supporting baffles for light and sound control. The central channel, which encloses the ballasts, is larger than the others, which are extensions from it connected by wiring enclosed in the tubing. This method of installation, besides providing for more effective illumination, is said to lower costs of electrical contracting work. The tubing sections require no threading and are secured by a simple turn of the fittings at the channel sides. They establish lampholder spacing, provide closed passage for wiring and unify the assembly for electrical grounding.

The sound-and-light-conditioning baffles are hooked onto hangers which are in turn connected to the channel sections by hooks. These baffles consist of 1 by 8 ft metal frames, into which are fitted acoustical panels, the exposed surfaces of which are perforated. The panels are ⅝ in. thick and are placed back to back in the frames. Curtis Lighting, Inc., 6135 W. 65th St., Chicago, Ill.

(*Continued on page 230*)

LITERATURE FOR THE OFFICE



Booklet shows use of many laminated forms

Laminated Arches

Rilco Glued Laminated Wood Arches, Beams and Trusses. Diagrams and photographs of construction details and typical installations illustrate this catalog of the manufacturer's line of laminated wood structural members. Included are descriptions of church and gymnasium arches, utility arches, buttressed arches, straight and cambered beams, bowstring trusses and tied arches. Dimension tables, details and information concerning determination of design adaption, and complete specifications are given, together with a full description of advantages of the members in design and construction. 15 pp., illus. Rilco Laminated Products, Inc., 1670 First National Bank Bldg., St. Paul 1, Minn.*

Face Brick

Stone Creek - Ava Face Brick. In this catalog of the manufacturer's line of face brick shades and textures, 21 different varieties are illustrated in full color reproductions. In addition, photographs of more than 50 buildings, including houses, which employ face brick are included to illustrate the adaptability of the product to a variety of construction types. Examples of exposed masonry interior walls and construction details concerning bonds and mortars have also been incorporated into the booklet. 27 pp., illus. Stone Creek Brick Co., Stone Creek, Ohio.

Heating for Small Houses

Heating the Home. A revision of a circular by the same title issued by the University of Illinois in 1945, this pamphlet incorporates advances made in heating systems for small houses in the last six years. Prominent attention is given to heating basementless houses, particularly with the forced hot-water and forced warm-air systems. Authors are Professors S. Konzo, W. S. Harris, and R. W. Roose, members of the staff of the Engineering Experiment Station at the University. 12 pp., illus. Price, 10 cents. Small Homes Council, University of Illinois, Urbana, Ill.

Floor Treatment and Maintenance

Floor Facts. This booklet contains specifications for the manufacturer's line for use in original treatment and maintenance of floors — asphalt tile, rubber tile, linoleum, cork, terrazzo, wood, cement, marble and tile. In each case there are recommendations for cleaning, conditioning and finishing, and cautions to be observed for the particular kind of floor. 17 pp., illus. Vestal, Inc., 4963 Manchester Ave., St. Louis 10, Mo.

Cooling—Heating Systems

Application Engineering Data on G-E Personal Weather Control Systems. This pamphlet provides extensive technical information on the design of weather control systems and on the application of room air-conditioning units and other equipment to such systems. There are notes on the selection of a system, the application of this particular system to various types of buildings (with examples cited), system design considerations, and application data. 60 pp., illus. Price, 50 cents. Air Conditioning Division, General Electric, Bloomfield, N. J.*

New Government Documents

• *Simplified Practice Recommendation R243–51, Unorificed Radiator Supply Valves.* Proposed by the Steam Heating Equipment Manufacturers Association, the recommendation lists the sizes, patterns and capacities of unorificed radiator supply valves for use in two-pipe, low pressure steam heating systems that currently are in use and demand, and are regarded as affording an adequate selection for ordinary use and stock. General provisions are included as related and useful information concerning these valves. Price, 5 cents.

• *Simplified Practice Recommendation R244–51, Low Pressure Thermostatic Radiator Traps and Float-and-Thermostatic Traps.* Also relating to steam heating systems that currently are in use and demand, and proposed, again, by the Steam Heating Equipment Manufacturers Association, this recommendation lists sizes, patterns and capacities of the specified traps. Price, 5 cents.

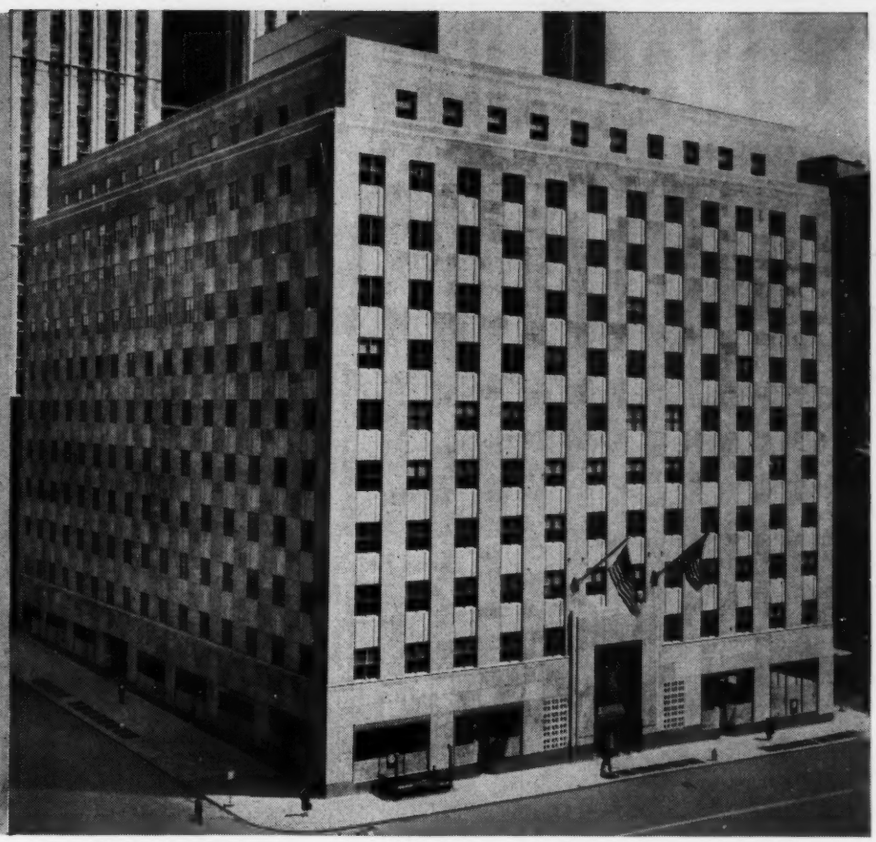
• *Fixture Unit Ratings as Used in Plumbing System Design: Housing Research Paper No. 15. By Herbert N. Eaton and John L. French.* A comprehensive treatment of the subject which briefly but adequately deals with the material outlined in the authors' statement of purposes. These are (1) to relate briefly the derivation of the terms "fixture unit" and "fixture unit rating;" (2) to indicate in simplified form the mathematics of the probability relations associated with them; and (3) to clarify the significance and use of these terms in the determination of design flow rates for water supply systems in buildings containing large numbers of fixtures. According to the authors, the procedures indicated in the booklet can also be utilized to determine drainage flow rates, provided the proper unit ratings are assigned to the fixtures. Price, 15 cents.

All three publications available from Superintendent of Documents, Government Printing Office, Washington, D. C.

(*Continued on page 260*)

** Other product information in Sweet's File, 1951.*

For the Dun & Bradstreet Building



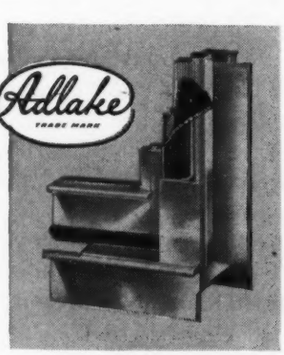
Dun & Bradstreet Building, New York City Architect: Reinhard, Hofmeister & Walquist Contractor: George Fuller Company

Adlake aluminum windows

The woven-pile weather stripping and *exclusive* patented serrated guides that are a vital part of ADLAKE Aluminum Windows mean complete *weather protection* for Dun & Bradstreet's new New York offices. Wind, rain and cold will not penetrate their positive weather seal.

What's more, these ADLAKE Aluminum Windows will ultimately *pay for themselves* by eliminating all maintenance costs except routine washing. They'll never warp, rot, rattle, stick or swell, and they will keep their weather seal, beauty and finger-tip operation *for the life of the building!*

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every Adlake window gives you these "plus" Features:

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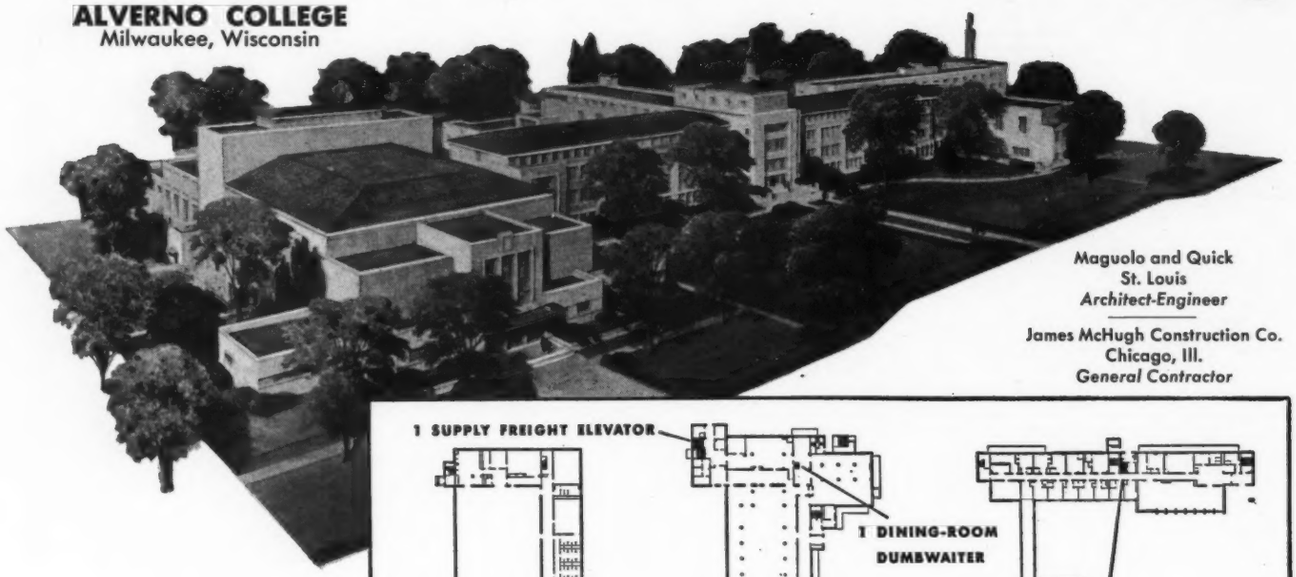
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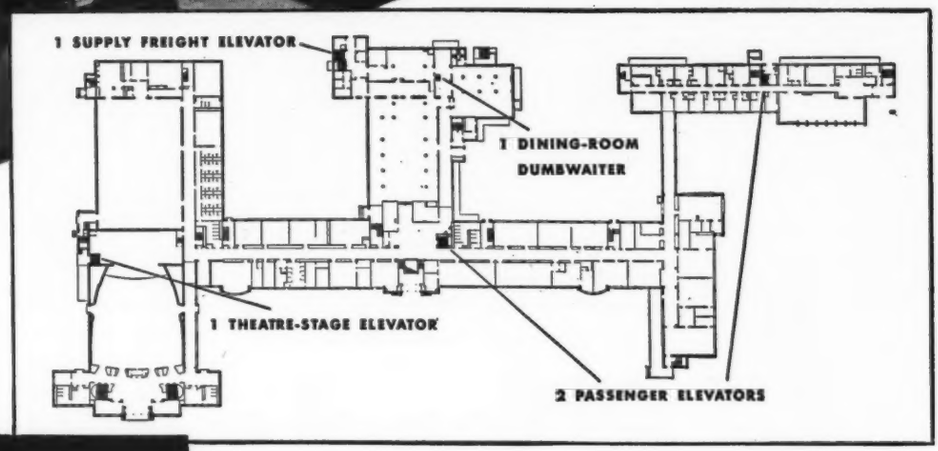
"College-Requisite" Elevatoring

ALVERNO COLLEGE
Milwaukee, Wisconsin



Maguolo and Quick
St. Louis
Architect-Engineer

James McHugh Construction Co.
Chicago, Ill.
General Contractor



Otis
2 PASSENGER ELEVATORS

Otis
1 THEATRE-STAGE ELEVATOR

Otis
1 DINING-ROOM DUMBWAITER

Otis
1 SUPPLY FREIGHT ELEVATOR

Better elevatoring is the business of

Otis

The new Alverno College for Women, being erected for the School Sisters of St. Francis, was designed by Maguolo and Quick, Architect-Engineer. Planned for 800 students, the main building will consist of five units: The chapel, administration offices, classroom and convent, library, auditorium and gymnasium; the project also includes a residence hall and a service building.

OTIS ELEVATORING meets all college requirements. 2 collective-control Passenger Elevators will handle student traffic; 1 plunger-electric Freight Elevator will lift the theatre stage apparatus; 1 call-and-send Electric Dumbwaiter will serve food from the kitchen to the dining room; 1 electric Freight Elevator will carry incoming supplies and food.

WHY DID ALVERNO COLLEGE BUY OTIS? OTIS was able to design, manufacture and install all of the required vertical transportation under a single responsibility. OTIS had a proven record of performance of many years standing in Milwaukee's Sacred Heart Sanitarium and St. Mary's Convent. Local OTIS service has always been prompt and courteous. All of which confirmed the fact that, "Better elevatoring really is the business of Otis."

For further details of OTIS vertical transportation equipment, including escalators, see SWEET'S Architectural File. Or, call your local OTIS office. Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.

RADIANT HEATING SYSTEMS FOR HOUSES—12: Hot Water Systems

By William J. McGuinness

Professor of Architecture, Pratt Institute

The fourth installment in a series on radiant heating, the following pages present a typical example using floor panels, and worked out by simplified methods presented in the Time-Saver Standards for August and September 1951. A similar example for a ceiling panel installation appeared in the October 1951 issue.

Example 2 — Floor Installation

This example illustrates the design of a system of floor coils for the heating of the same house (Fig. 12) as shown in Fig. 7, TSS, Oct. 1951, Sheet 8. The house is still assumed to be fully insulated and double glazed. Carpets may, in this case, be eliminated with some advantage to the operating economy.

1. Layout

The available panel areas are shown in Fig. 13. Coils should not be run below any fixed equipment such as kitchen floor cabinets. The bathroom panel might have been made smaller to avoid the area of bathtubs, although they are good transmitting surfaces and some piping below them assures comfort while bathing. Fig. 14 is a final summary of the design. Preliminary sketches resembling Fig. 14 should be made to study the possible location of coils and equipment and the routing of mains.

2. Net Hourly Heat Losses

Column 1, Table 6, lists the heat losses from the several rooms. For the use of floor coils, they include the losses through glass, walls and ceilings as well as infiltration of air. Perimeter floor loss is not included. The reverse flow from the pipes to the ground is later added to establish the gross heat loss (column 7, Table 6) from which the linear feet of pipe is selected for the coils.

3. Adjustment

Because this is a one-story house, there is no gain in any heated space from heat flowing in by reverse loss from a panel in a room above or below. Adjustment is not needed.

4. Net Output

It is well to keep the net output in Btu per hr per sq ft of panel below 55 in floors. Columns 1, 3 and 4 (Table 6) establish this output in the case of each room. The dining room is critical at 55 and should be considered first.

5. Gross Output

The water circulated through the pipes must bring in enough heat to make up the net heat loss from the rooms and also the reverse loss to the ground. Fig. 1, TSS, Aug. 1951, Sheet 2, expresses the approximate reverse loss for various floor coverings. Columns 5, 6 and 7 of Table 6

Fig. 12. Plan, Example 2.

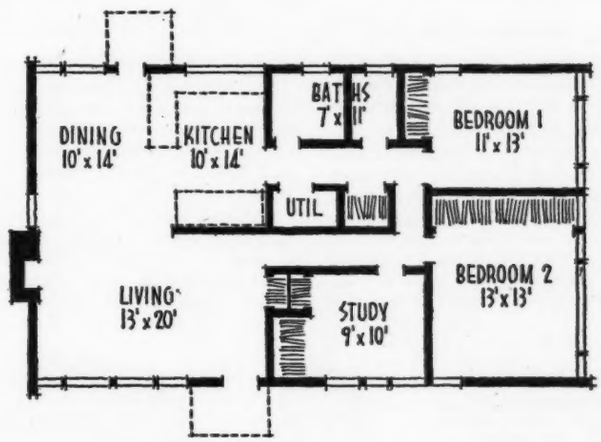
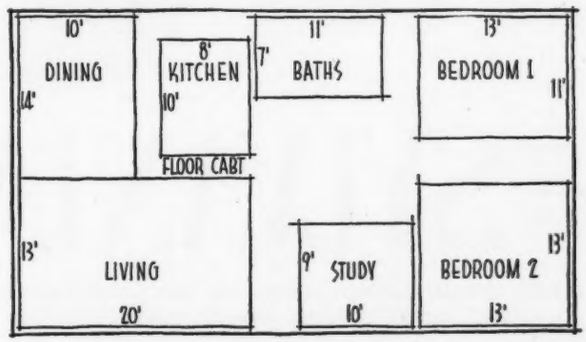
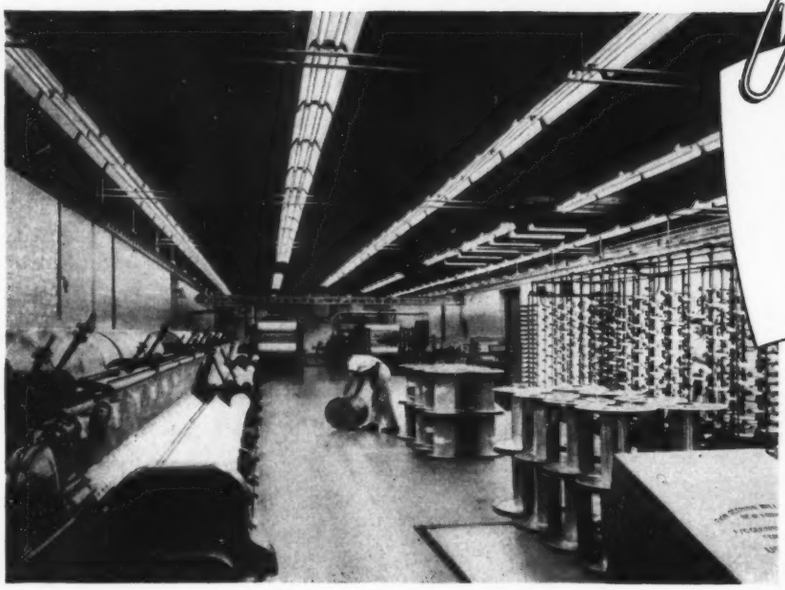


Fig. 13. Panel Areas Available, Example 2.



This lighting installation

WILL PAY FOR ITSELF IN 3 YEARS!



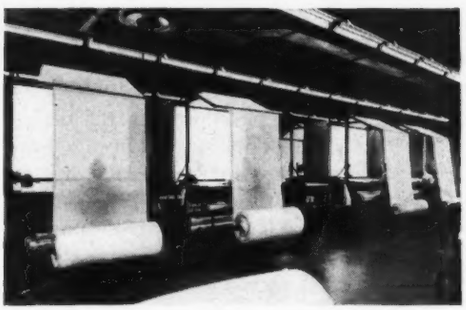
Photographic record shows why Sylvania Fluorescent Lighting speeds production ... saves big money for Southern Mill

Looking for ways to cut costs? Here's a Sylvania Fluorescent Lighting Installation that does just that for the Deering-Milliken Mills in South Carolina.

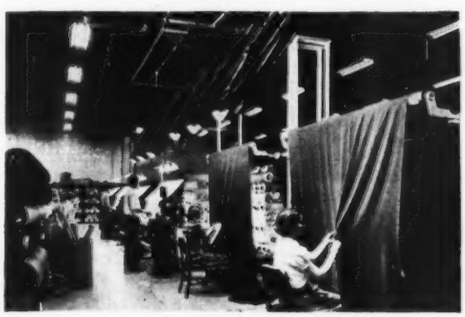
Note the clean, clear lighting atmosphere in the above photo. Sylvania tubes and fixtures furnish a lighting level practically triple that obtained from former lighting units. As a result, mill authorities estimate, the saving realized in production costs, time, and the elimination of waste *will completely pay for this efficient installation in just three years time.*

In addition, Sylvania fixtures offer the lowest possible maintenance costs. Hard durable porcelain reflectors resist the dampness caused by humidification necessary in textile mills. Turned down fixture lips prevent accumulation of dust or lint.

Sylvania now offers fixtures for every industrial need . . . equipped with 2, 3, or 4 tubes . . . standard or instant start. Ask your secretary to mail the coupon for full information TODAY!



$1500 Saved Here. This unique inspection method uses 24 forty-watt Sylvania fluorescent tubes and a luminous panel. Mill engineers estimate this Sylvania-designed unit provides a saving of $1500 per year.



Inspection speeded here. Excellent use is made of the flexibility of Sylvania Fixtures. Hung at an angle over the cloth they eliminate need for slow, costly hand portable droplights and greatly speed inspection. Another big saving with Sylvania.

Architects, Engineers, and General Contractors! make a note of this sign! It's your guide to a qualified Lighting Contractor who is fully equipped to give you full cooperation in working out your lighting plans. He'll take over a thousand and one details . . . save you many lighting headaches and provide the latest Sylvania Fixtures and long-life tubes.



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RADIANT HEATING SYSTEMS FOR HOUSES—13: Hot Water Systems

By William J. McGuinness
Professor of Architecture, Pratt Institute

Fig. 14. Coil Layout, Example 2.

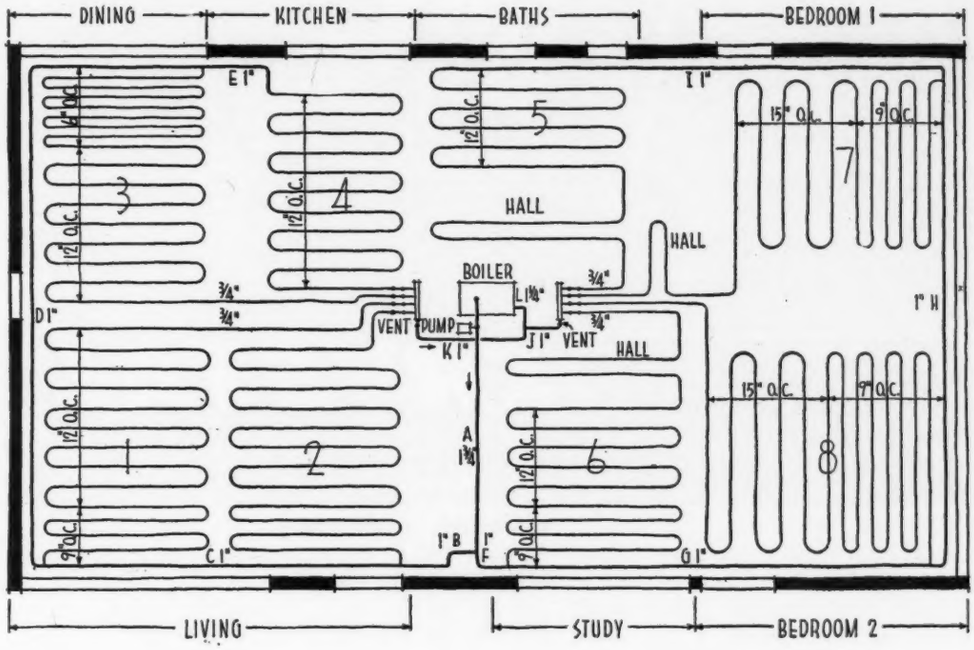


TABLE 6. Design Work Sheet, Example 2 *House shown in Fig. 12*

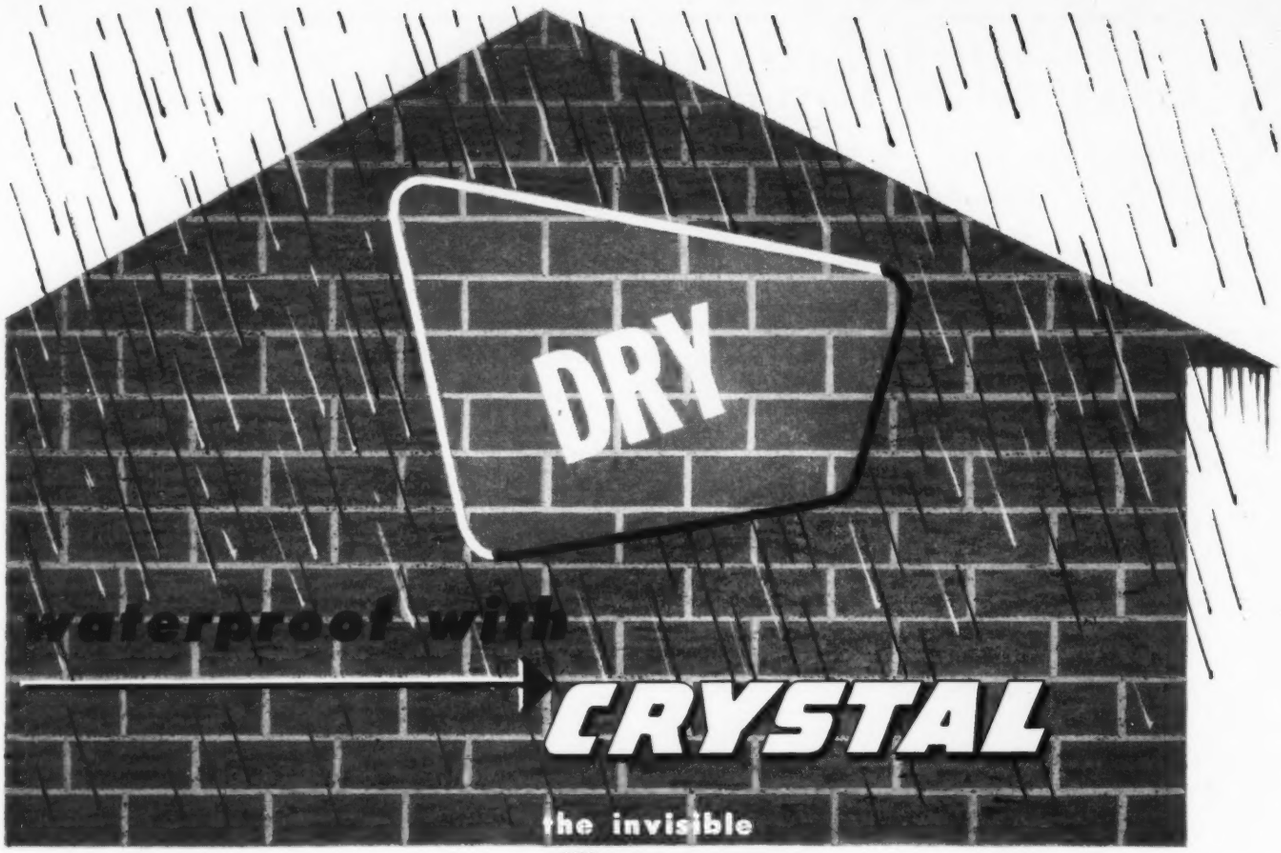
General Design Data — Coil Location—*Floor* — Pipe Size ¾ *in. wrought iron or steel* — Gross Unit Output, *Btu/hr/ft or pipe—53††* — Avg. Water Temp. *130° F* Temp. Drop in System *10° F*

Col. Nos.	1	2	3	4	5	6	7	8	9	10	11	12
	Net Room Heat Loss	Available Panel		Unit Output of Panel	Floor Covering	Reverse Flow	Gross Heat Loss	Pipe Req'd. Per Room	Sinuous Coils	Identification	Approximate Pipe Spacing	
		Dimensions	Area								Trial	Final
	Btu/hr	Ft	Sq Ft	Btu/hr/s.f.	Material Selected	% of Gross	Btu/hr	Ft	Number Per Room	Coil Numbers	Inches c. to c.	Inches c. to c.
Living	11,440	13 x 20	260	44	Carpet	20	14,350	270	2 @ 135	1, 2	11	9 & 12
Dining	7,700	10 x 14	140	55†	Asphalt Tile	10	8,550	160	1	3	9	6 & 12
Kitchen	3,250	8 x 10*	80	41	Asphalt Tile	10	3,620	68	1	4	13	12
Baths	2,740	7 x 10	70	39	Ceramic Tile	10	3,050	58	1	5	12	12
Study	3,760	9 x 10	90	42	¼ in. wood in mastic	20	4,700	88	1	6	11	9 & 12
Bedroom 1	6,300	11 x 13	143	44	Asphalt Tile	10	7,000	132	1	7	12	9 & 15
Bedroom 2	8,100	13 x 13	169	48	Asphalt Tile	10	9,000	170	1	8	11	9 & 15
Totals	43,290						50,270	946	8			
Notes	Not incl. floor perimeter loss	*Exclusive of floor cabinets		Col 1 ÷ Col 3		See Fig. 1 TSS Aug.'51 Sheet 2.	Col—by .80 or .90	†† Col 7 ÷ 53	L.R. Divided for equalization	See Fig. 13	See Text	See Layout Fig. 13

† *Critical output, (not to exceed 55 for floors)*

†† *From Table 1, TSS, Aug. '51, Sheet 4. 57×.93=53 Btu/hr/ft of pipe*

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RADIANT HEATING SYSTEMS FOR HOUSES — 14: Hot Water Systems

By William J. McGuinness

Professor of Architecture, Pratt Institute

show the method of arriving at the gross heat loss for each space.

6. Temperature Drop in the System

Pipes of wrought iron or steel ¾ in. in diameter will be used for the coils. In these relatively large pipes the friction is small and the water can be pumped through them quite rapidly. A small temperature drop can be expected and 10 deg is chosen.

7. Average Water Temperature

A trial computation was made using 110 F as the average water temperature, and it was found that the pipe spacings in the dining area were too small. A temperature of 130 F was then chosen and is used here. Table 1, TSS, Aug. 1951, Sheet 4, gives the output per ft of ¾ in: pipe as 57 x .93 = 53 Btu/hr at 130 F.

8. Critical Panel

If the gross heat loss of the dining area be divided by the output per ft of pipe (53 Btu), it is found that 160 ft of pipe are required. This works out to an average spacing of 9 in. on center. This is in accord with suggested spacings in Table 1, TSS, Aug. 1951, Sheet 4. To overcome the greater loss near glass, the pipes will be spaced 6 in. on center near the glass and wider as the coil recedes from the glass. 6 in. is greater than the closest possible spacing of ¾ in. pipe as determined by the minimum bend radius. Comments under the item "Critical Panel", TSS, Oct. 1951, Sheet 10, may be helpful in layout and study.

9. Other Panels

Columns 8 through 12 in Table 6 are a summary of the trial and final spacings based upon the required total linear footage for all coils. Coils up to 350 ft in length are permissible using ¾ in. wrought iron or steel pipe. It will be seen that all of the proposed coils are less than this length, resulting in a simpler coil layout than that of Example 1. In that example, 12 coils were used instead of 8 because of the smaller tubing chosen. The living room requirements are met by two coils or lengths comparable to those in other rooms.

10. Size of Mains

Mains A and L convey more than 35,000 Btu per hr. Reference to Table 2, TSS, Sept. 1951, Sheet 6, results in the selection of 1¼ in. mains at these two points. All other mains can be 1 in. because their capacities are less than 35,000 Btu. The mains are shown in heavy lines on Fig. 14.

11. Water Flow

Sufficient water must be pumped to make up the gross heat loss. Dividing the gross heat loss of 50,270 Btu by the factor 5000 for a 10 deg drop, 10 gallons per minute is found to be the necessary rate.

12. Selection of a Pump

The pump size will depend upon the rate of pumping and the friction head through the longest circuit (Coil 3) expressed in ft of water. The path of the water and the friction of each pipe length may be traced in Table 7. The resulting head of 2.38 ft of water makes no allowance for fittings and equipment for which 50% is commonly added. 2.38 x 1.50 = 3.57 ft of water, total friction head. If these coordinates (10 G.P.M. & 3.57 ft) are plotted on Fig. 6, TSS, Sept. 1951, Sheet 7, it will be seen that in this small system the usual minimum pump size of 1 in. is adequate.

13. Boiler

The hourly requirement of this house under design performance is 50,270 Btu for the gross connected heating load. A boiler must be se-

TABLE 7, Friction in the longest run (Coil 3)

Pipe Identification	Heat Conveyed	Pipe Size	Actual Length	Friction Ft/100 ft Pipe	Friction Head, Ft
A	50,270 Btu	1¼ in.	19 ft	1.8 ft	.34 ft
B	26,520	1	5	2.0	.10
C	19,350	1	18	1.2	.22
D	12,180	1	36	.4	.14
Coil 3	8,550	¾	170*	.8	1.37
K	26,520	1	8	2.0	.16
L	50,270	1¼	3	1.8	.05
Total					2.38 ft
Notes	Fig. 13 & Table 6	Table 2, TSS Sept. '51 Sheet 6.	*160+ 10 ft to header	Fig. 5, TSS Aug. '51 Sheet 5.	

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RADIANT HEATING SYSTEMS FOR HOUSES — 15: Hot Water Systems

By William J. McGuinness

Professor of Architecture, Pratt Institute

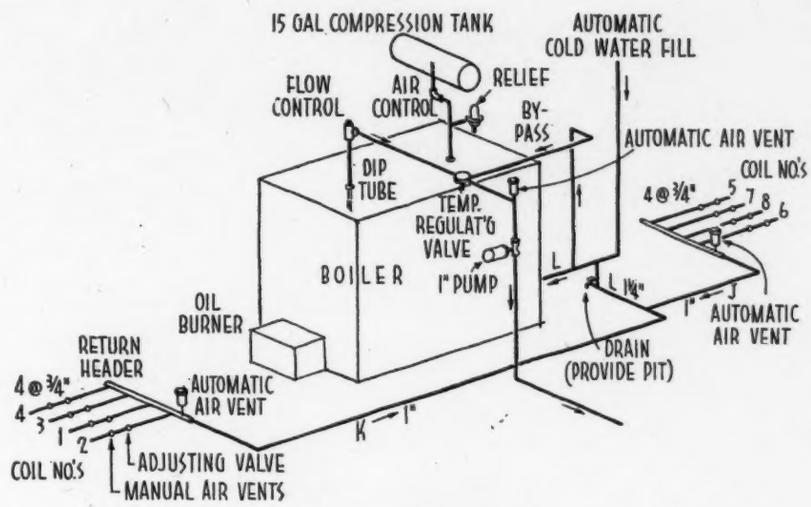


Fig. 15. Boiler Connections, Example 2.

lected to carry this load and also meet the demand for domestic hot water.

14. Compression Tank

A 15 gallon tank will permit the required expansion of the water in this system according to Table 3, TSS, Sept. 1951, Sheet 6, since the *net* heat loss is less than 50,000 Btu/hr.

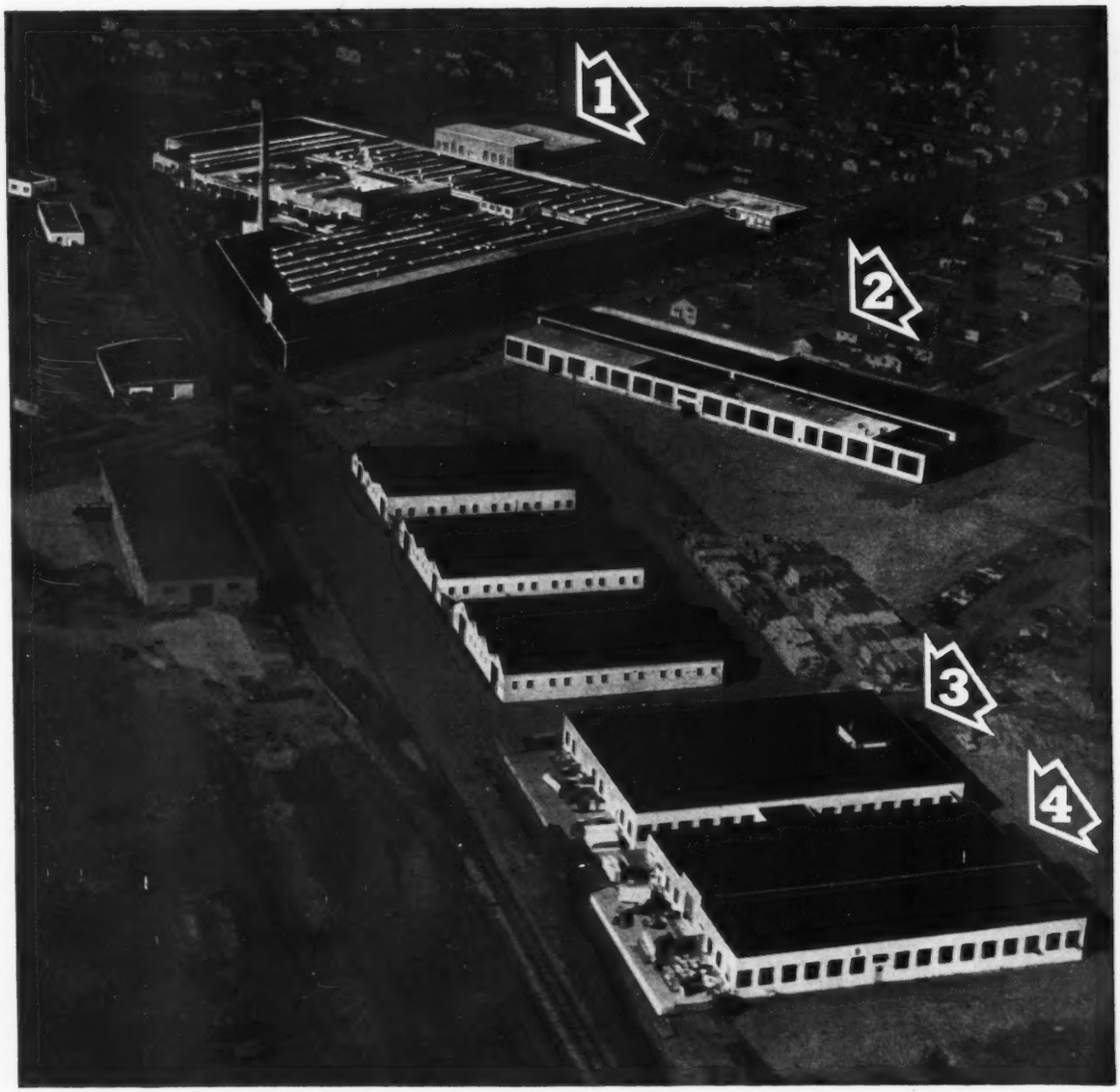
Boiler Connections

The piping arrangements at the boiler are pictured in Fig. 15. For simplicity, some of the boiler controls, valves in the piping and domestic hot water connections have been omitted. The boiler will deliver water through main A at 135 F and it will return through L at 125 F. This is necessary to achieve the 130 deg average water temperature and the 10 deg drop. The bypass from the return line and the temperature regulating valve permit the boiler to operate at 180 deg or more, assuring a temperature high enough for domestic hot water (135 is not enough). The hot water of the boiler is mixed with the cooler return water to produce the supply water at 135. This mixing arrangement is needed in most cases where domestic hot water is generated by the same boiler. It would have to be used if domestic hot water were desired from the boiler in Example 1, Fig. 11, TSS, Oct. 1951, Sheet 11. The actual piping might be a good deal more compact than that shown in Fig. 15 resulting in the inclusion of the vents and adjusting valves within the utility room. Otherwise, the adjusting valves would have to be in a recess in the floor covered by an access plate. The automatic vents would have to be above the floor in a partition or utility space. All vents and controls must be accessible.

Venting and Adjustment

The dip tube prevents air from favoring a path through the main. It collects in the air chamber of the compression tank. Entrained air in the supply and return mains is exhausted by the automatic air vents at high points in the supply main and return headers. The manual air vents are petcocks which can be opened and the air purged from one circuit by closing off the others and pumping through the open circuit only until the air is driven out. This may have to be done at the beginning of operations. The adjusting valves may be used to cut down the flow to coils which are overhot. Care should be taken not to constrict the general flow too much, but only to equalize or balance it.

TRANE ADDS 4 NEW PLANTS . . .



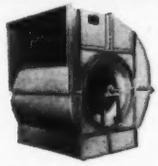
New buildings completed in recent Trane construction program. Arrows indicate: 1) Tool Building, a separate unit immediately north of the Main Plant, 2) a complete plant for assembly of standard heat transfer surface, 3) Brazed Aluminum Plant, 4) Special Heat Transfer Products Assembly Building.



More Unit Heaters—Plant additions permit expansion of unit heater assembly lines—more heat for army camps and defense plants.



More Unit Ventilators—With more schools being built, demands are high for the warm, fresh air produced by Trane Unit Ventilators.



More Fans—Trane introduced a new line of centrifugal fans recently. Popular acceptance and increased sales make more manufacturing space necessary.

TO INCREASE PRODUCTION SPACE

More Room to Manufacture a Complete Line of Heating, Ventilating and Air Conditioning Products

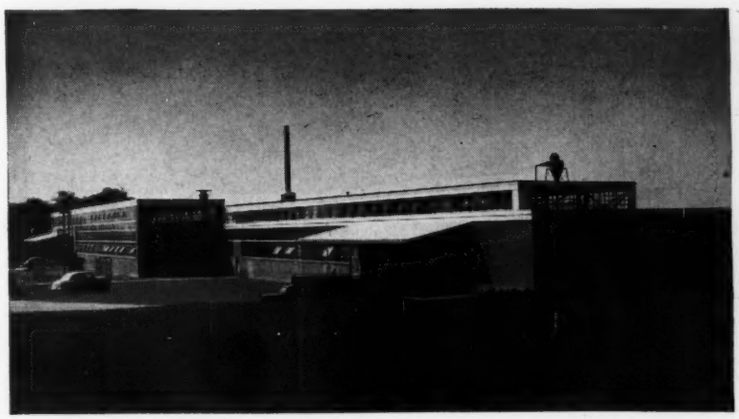


Trane builds again. To manufacture more and better heating, ventilating and air conditioning equipment, Trane is completing a major expansion program. Four new buildings have been added at La Crosse. Total factory space has been increased substantially. Many workmen have been added to Trane payrolls.

Much of the new space will be used to turn out more Trane products faster. With defense construction increasing sharply, the demand for standard Trane heating equipment is at an unprecedented high level. At the same time, the popularity of recently announced products has required additional capacity to produce them. More room will, therefore, be devoted to the manufacture of fans, refrigeration products and special heat transfer equipment.

All the space in one of the new buildings will be used to produce the dies and jigs used in the manufacture of Trane products. This ultra-modern tool shop will have twice as much machinery and will, thanks to newest tool making methods, produce three times as many tools. The new tool building will help increase production two ways. It will make more tools available quickly and on schedule. And, by pre-testing each item, it will save hundreds of hours of production time.

With these new buildings to expand and improve production, Trane is better able to serve the architect, engineer, contractor and the armed forces with a complete line of heating, ventilating and air conditioning equipment.



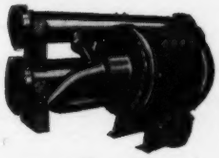
In Canada, too! Expansion has not been limited to the La Crosse plant. At Toronto, Trane Company of Canada, Ltd., has completed a new suburban factory, the first step in enlarging and consolidating its manufacturing facilities.



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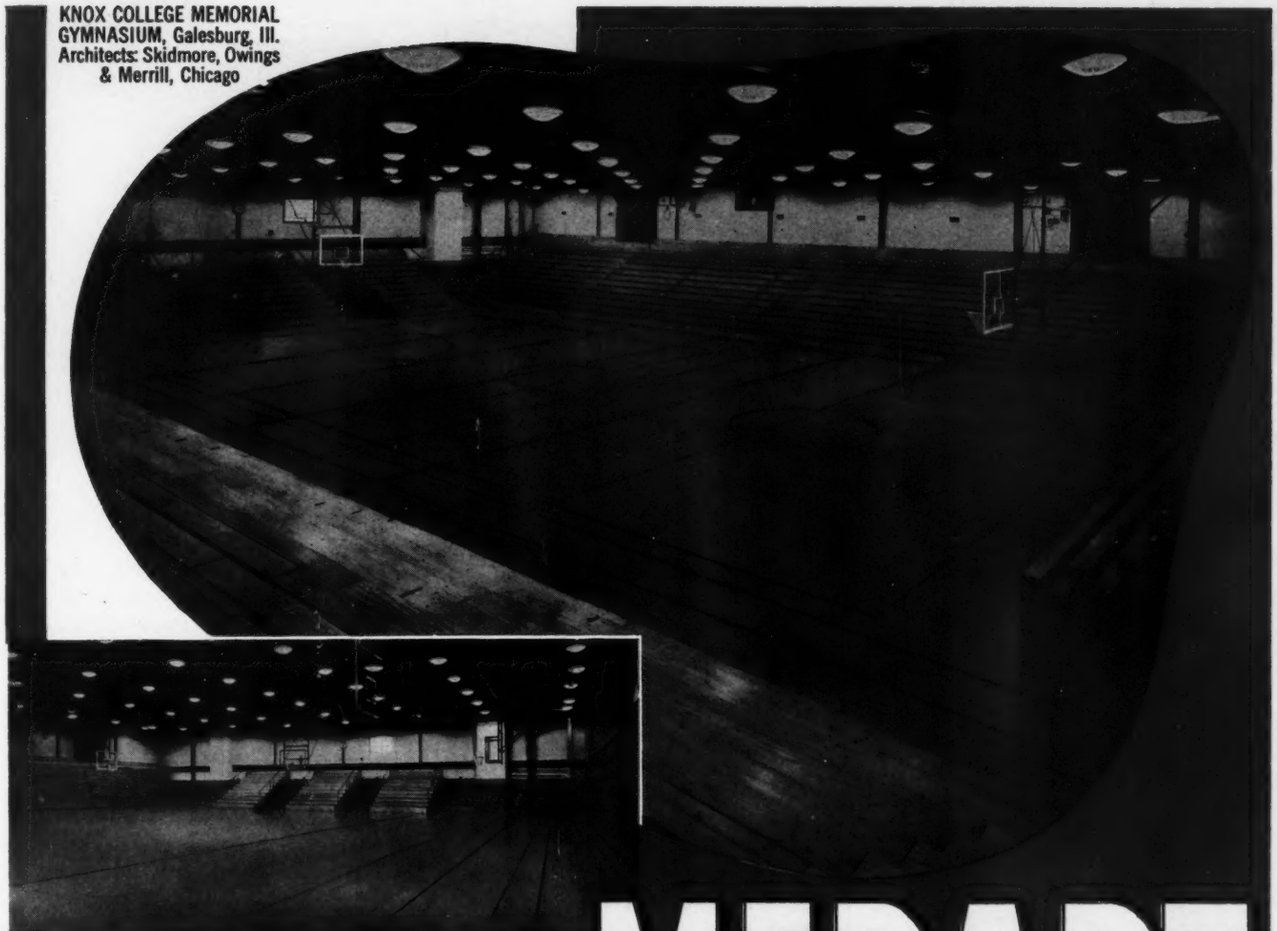
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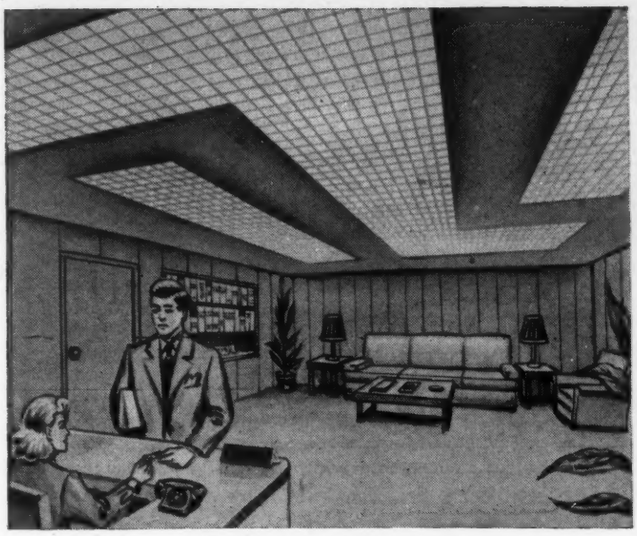
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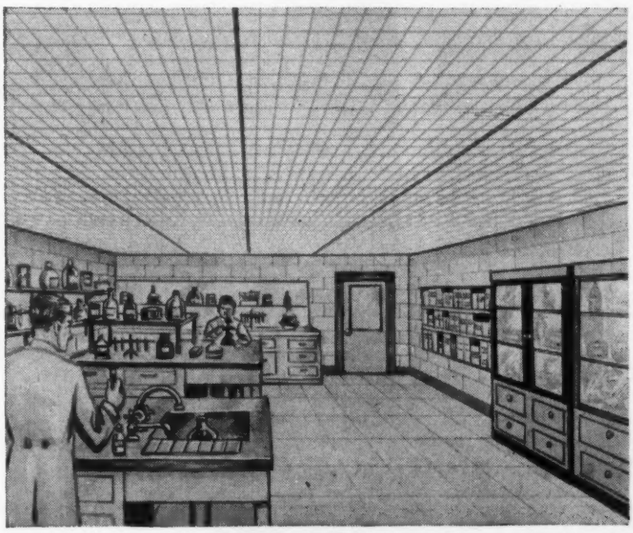
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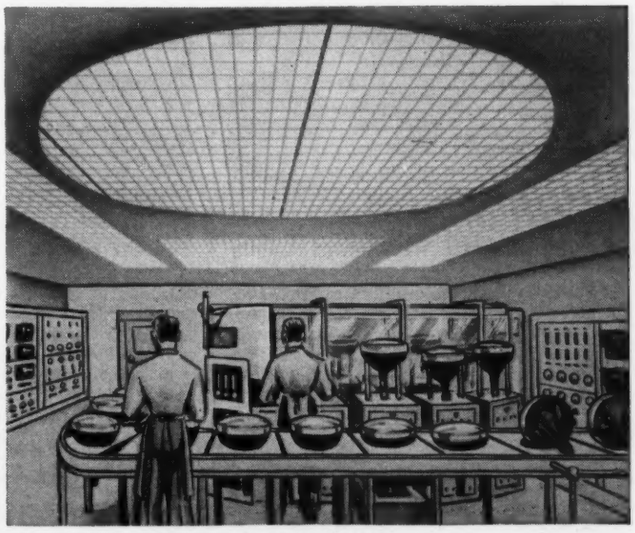
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■ Though this Middleborough, Mass., project was subject to the most rigorous economies in construction, it is unusually attractive. Among the features that give an added measure of tenant—and management—satisfaction are the site planning to take advantage of the natural landscaping . . . and the use of smartly-styled, sturdily-constructed American-Standard heating equipment and plumbing fixtures throughout the dwellings.

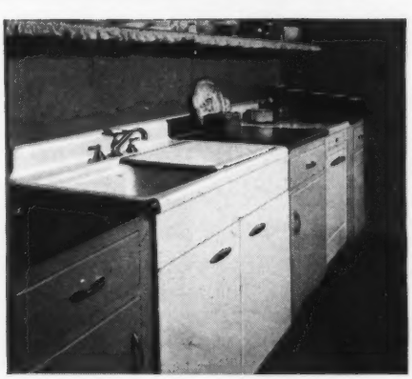
Famous for their design and engineering advantages . . . for efficient and economical service . . . American-Standard products are available in a wide variety of models, sizes and types. Whatever *your* heating and plumbing needs—for single units or multiple family dwellings, small budget job or large—you are sure to find the exact products for your job in the American-Standard line, the most complete in the field.



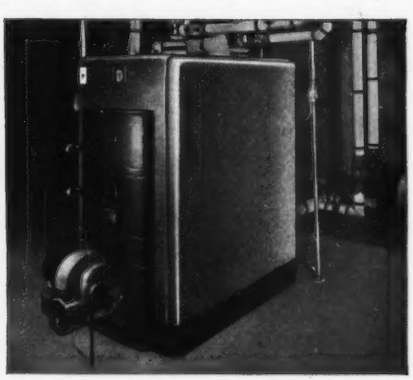
Architect: Kennedy and Smith, Boston, Mass.
Engineer: Gordon E. MacNeill, Boston, Mass.
General contractor: Hayes & Watkins Construction Co., Brockton, Mass.
Heating contractor: Miles Plumbing & Heating Co., Inc., Brockton, Mass.
Plumbing contractor: Ernest Margeson, New Bedford, Mass.
Wholesale distributor: F.W.Webb Mfg. Company, Boston, Mass.



The Master Pembroke bath and Hexagon lavatory in this Middleborough bathroom are of durable cast iron heavily coated with lustrous, easy-to-clean enamel. The water closet is of genuine vitreous china. And note the trim and smartly styled convector. American-Standard convectors are used throughout the project.



Occupying minimum space, this Duplex Hostess sink and laundry tray in a Middleborough kitchen is convenient to use, easy to keep clean. It has an 8"-deep sink well on one side, a 13"-deep laundry compartment on the other, and a movable drainboard. Made of rigid cast iron with a thick enamel coating.



Each unit of the Middleborough Housing Project is equipped with a compact Severn Oil Boiler, assuring good heating at minimum cost. Here, the Severn is coordinated with an Arcoflame Oil Burner for top efficiency. The Severn is available in sizes to fit a wide variety of installation requirements.

American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pa.

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Kaylo Insulating Roof Tile is gaining rapid acceptance for all types of buildings because it provides a strong, durable roof deck that is both *incombustible* and *insulating*—yet lightweight. This remarkable structural material, a hydrous calcium silicate, offers economy of steel in the supporting structure and greater live-load-carrying capacity in relation to the dead weight of the deck. Moreover, the lightweight Kaylo Tile is easy to handle and place—speeds up work and saves erection costs.

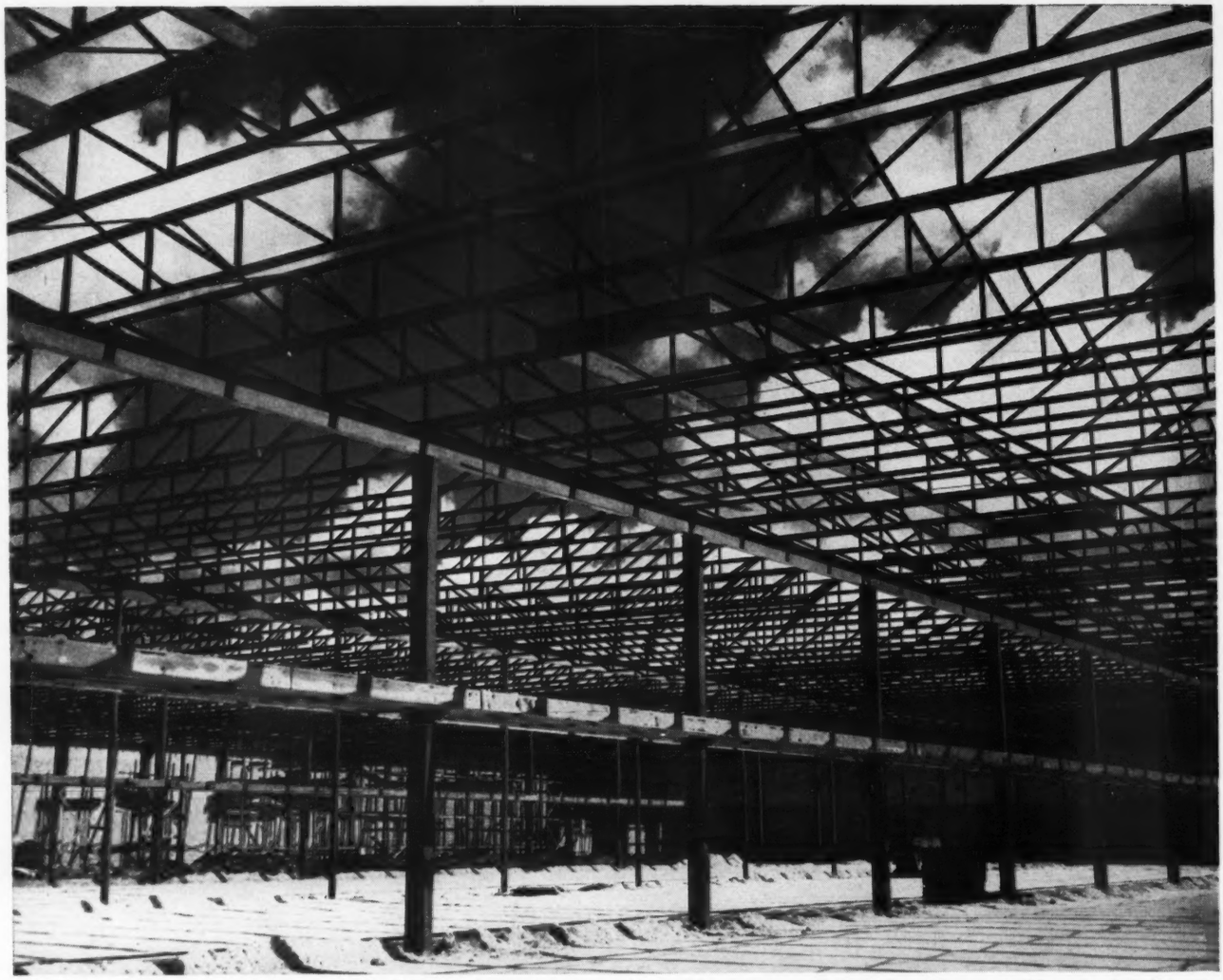
For complete details on Kaylo Insulating Roof Tile, write Dept. N-210, Owens-Illinois Glass Company, Kaylo Division, Toledo 1, Ohio.

See our CATALOG in SWEET'S FILE ARCHITECTURAL

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Bethlehem Longspan Joists in warehouse for Dade Wholesale Groceries, Inc., Miami, Fla. Contractor: Deigaard and Preston Builders, Coral Gables, Fla.

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In addition, Bethlehem Longspans reduce the need for pilasters which often interfere with wall design. Installed as supports for roofs or floors, Longspans cut construction time because pipes, conduits and ducts can be run through the open webs of the joists.

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Remember Longspan Joists the next time you design an industrial building. The nearest Bethlehem representative will be glad to furnish more information. Or send your inquiry to us at Bethlehem, Pa.

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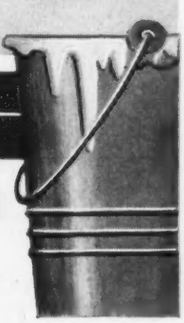


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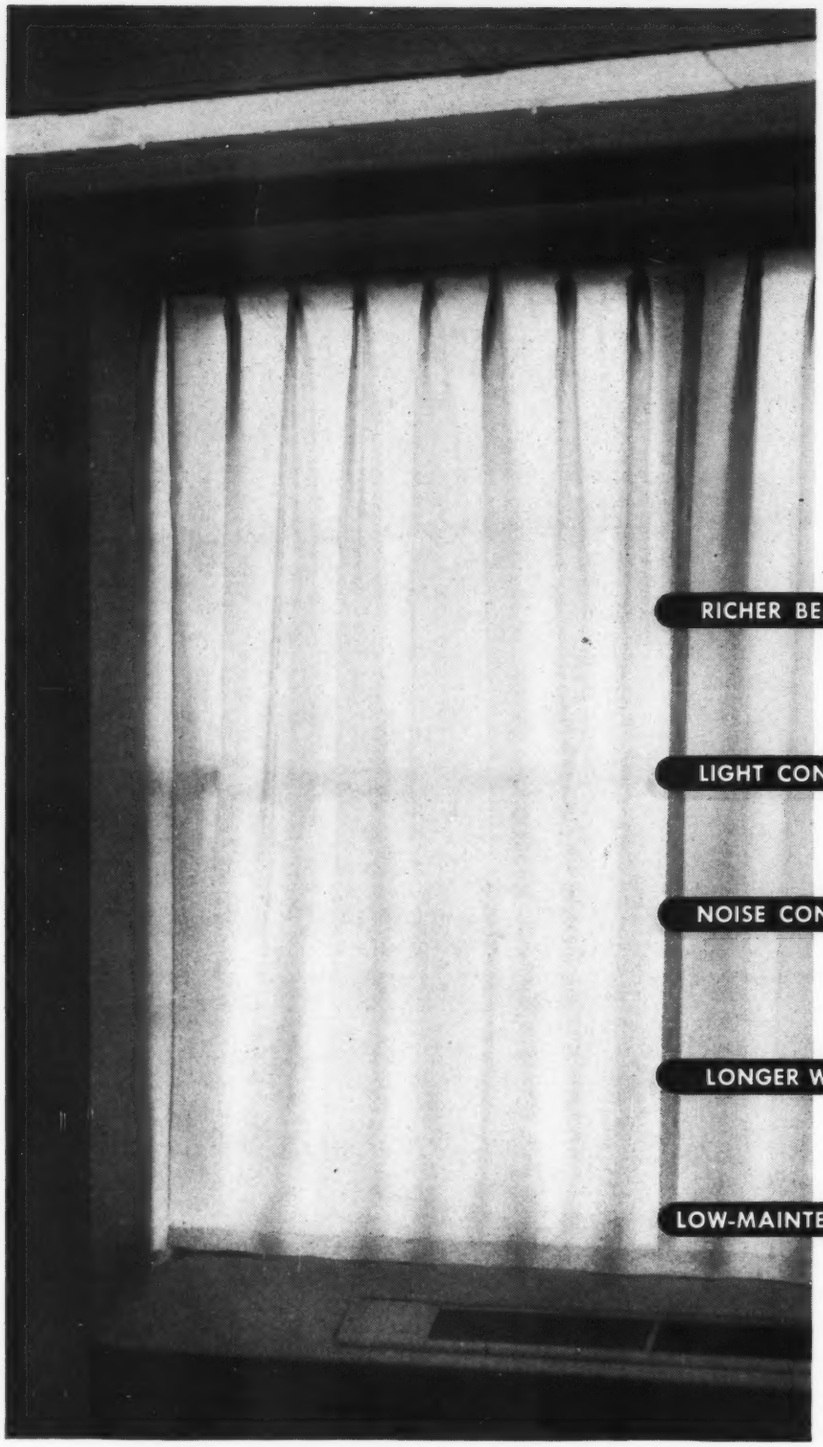
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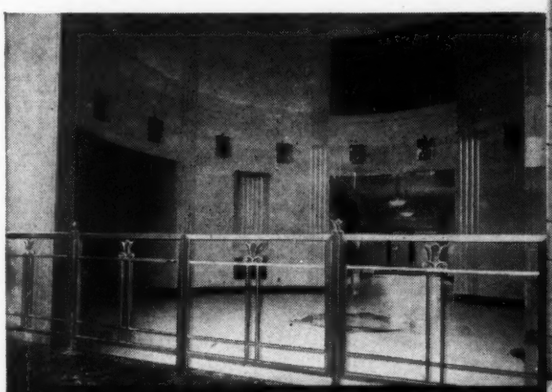
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The Holy Sepulchre Mausoleum, Oakland County, Michigan, is a superb and mighty combination of marble and bronze, with a beauty in every way appropriate to the solemn purpose of the building.

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In the central rotunda, bronze railings and grilles complement the other beautiful materials with which they are surrounded. Bronze Stations of the Cross are cast in expertly sculptured bas-relief.



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NOTE: The use of copper and copper alloys is now subject to the regulations of The National Production Authority. 5201

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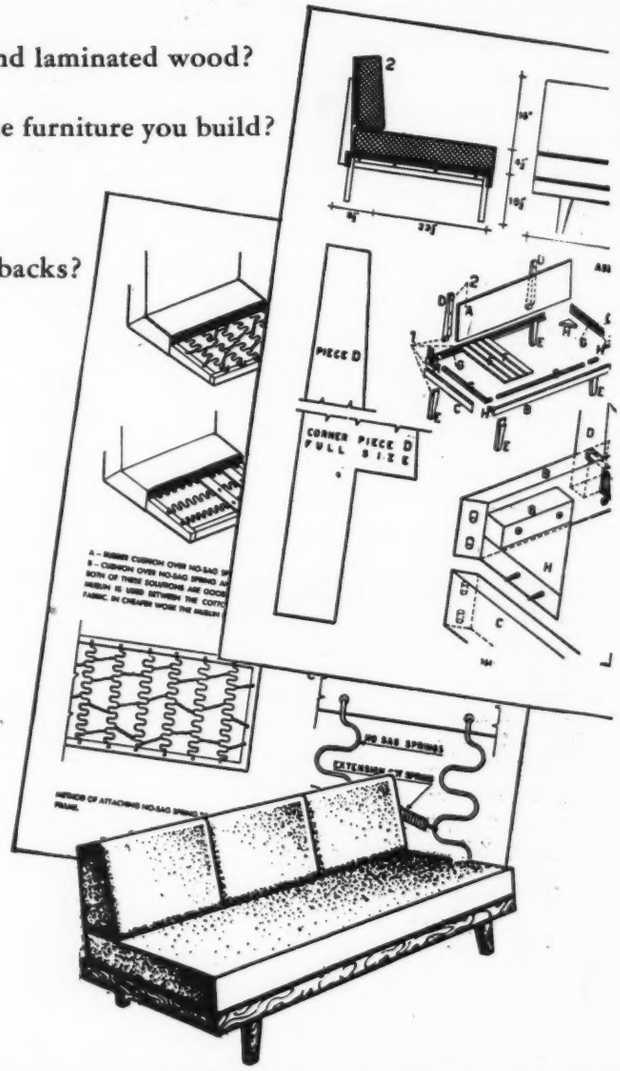
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This is the type of information, difficult to find elsewhere, which Mario Dal Fabbro presents in *How to Build Modern Furniture.*

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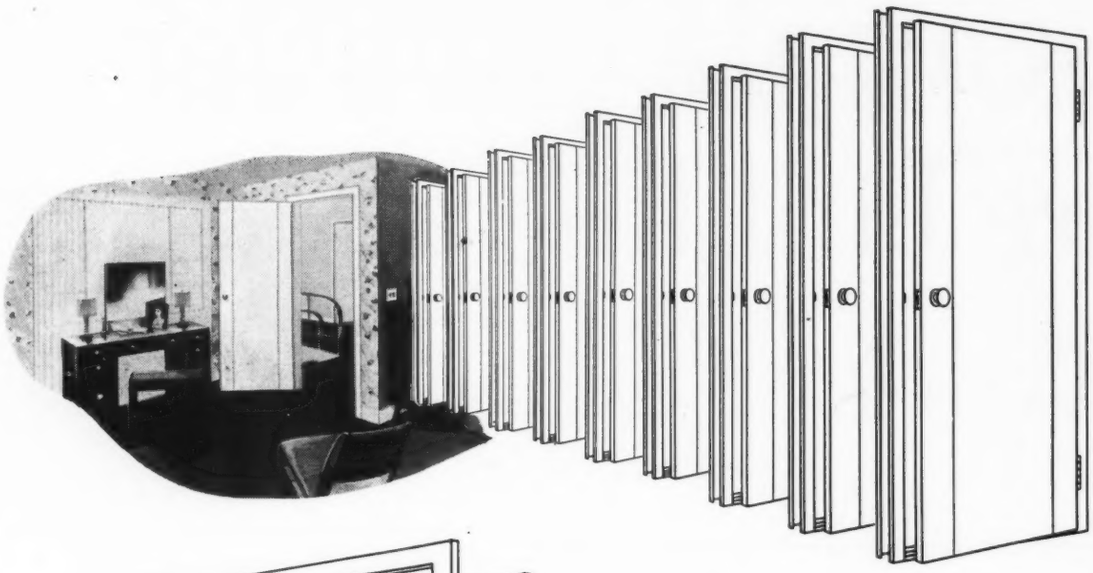
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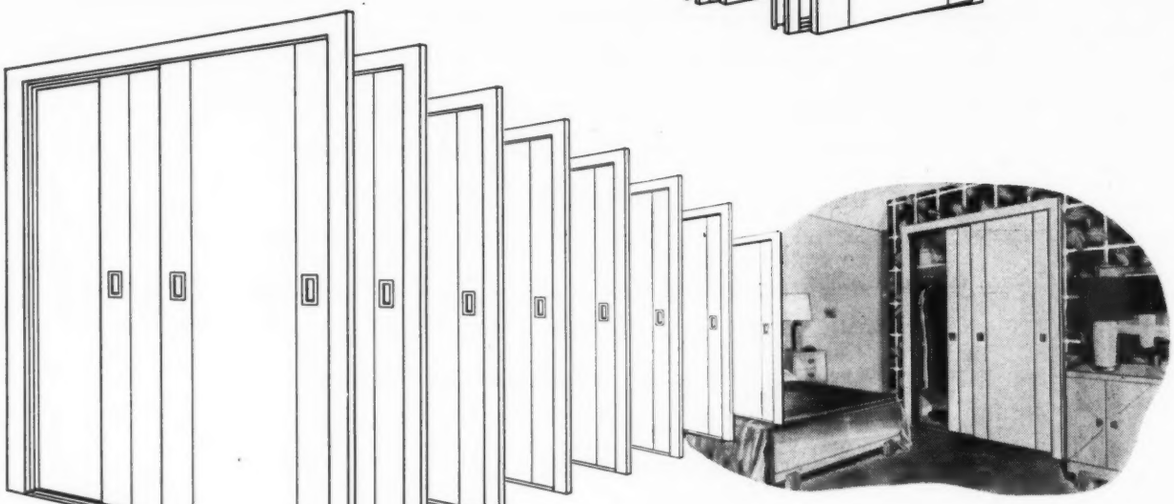
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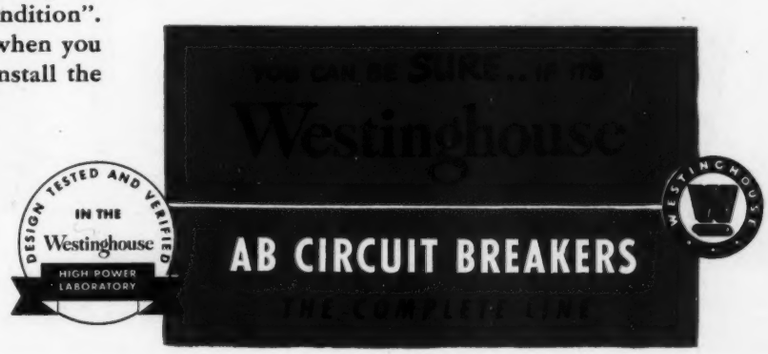
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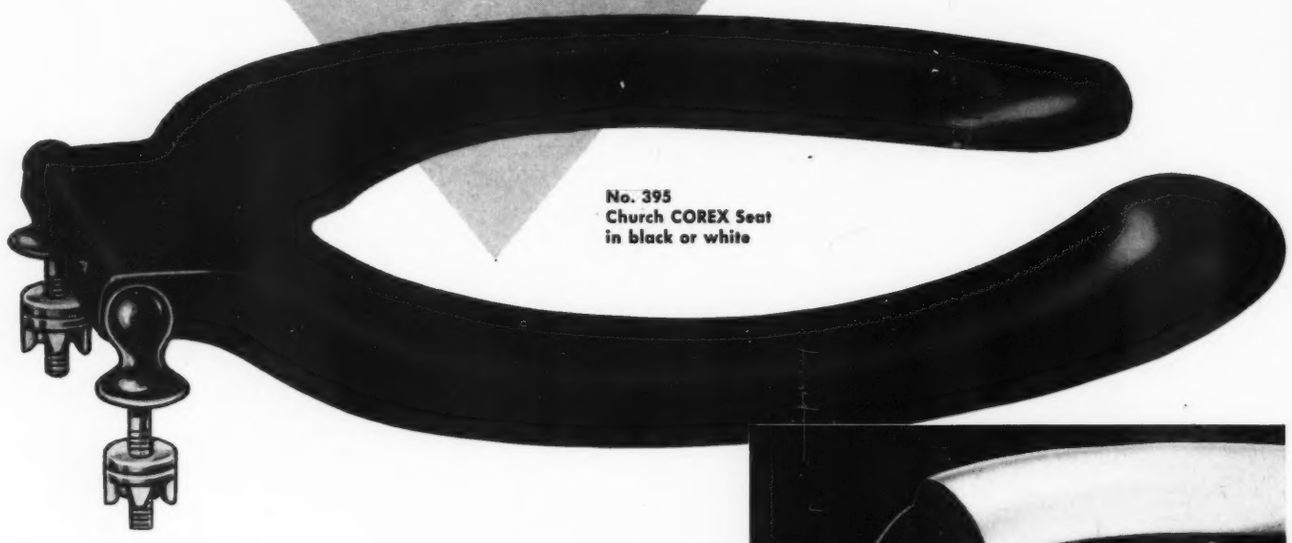
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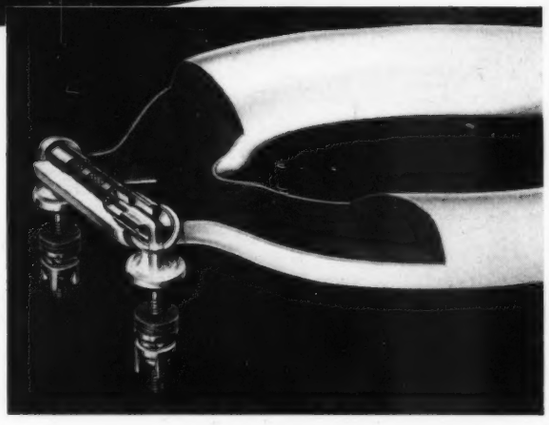
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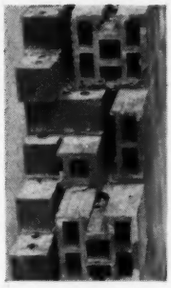
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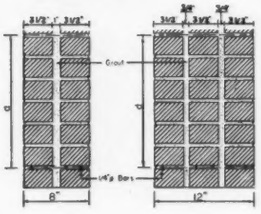
...of ...cal clay

Here are 4 ways BRICK and TILE can help you build when steel is short



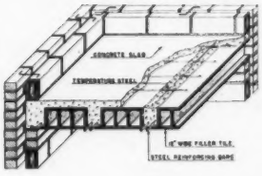
Load Bearing Brick and Tile Walls

Brick and tile long have been used as load-bearing walls in all types of construction. Since such construction is in itself load-bearing and needs no accessory supporting frames, such as structural steel, the use of steel is eliminated.



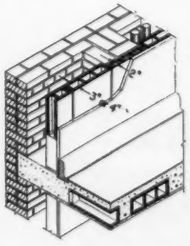
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Tile and Concrete Floors

Some floor systems require large amounts of steel for steel bar joists, cellular steel or metal pans. Combination clay tile and concrete floor systems, or precast tile joist floor systems, where available, free this steel for other uses.



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Where necessary to fur walls, sizable savings in critical metals can be made if tile furring is used in place of metal lath and steel furring channels. Tile furring may be free-standing or attached to the structural wall by one of several recommended methods of anchoring.



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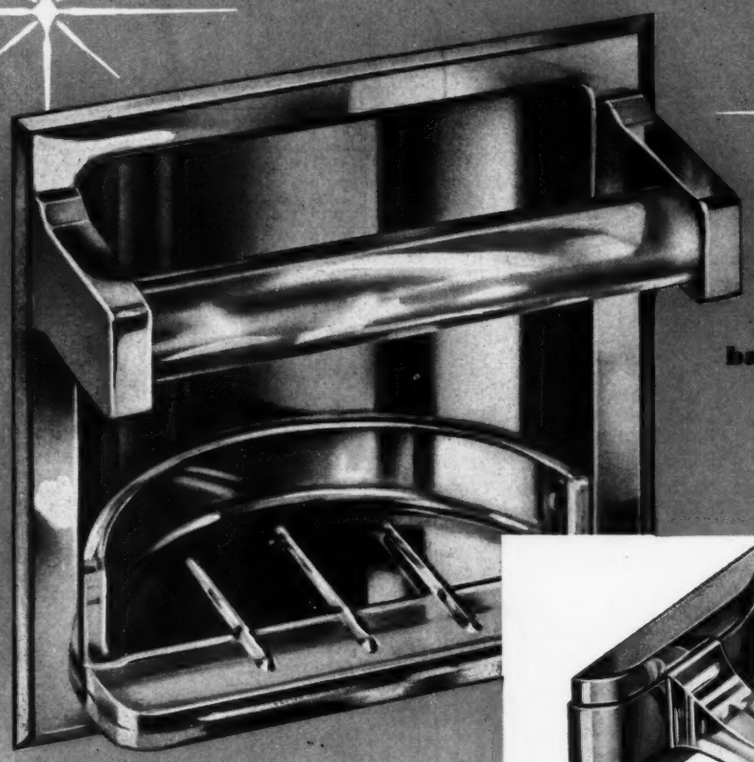
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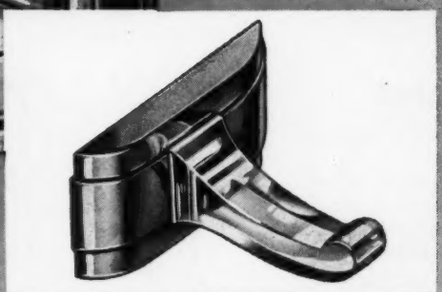
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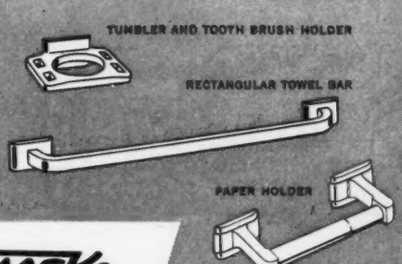


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Ability to place heat *where* it's wanted and in the *quantity* needed is an advantage that makes American Blower Unit Heaters ideally suited for heating such large areas as warehouses, garages and auditoriums. These dependable unit heaters force heat down to the working level, heat up quickly with little time lag. They are low in first cost, and deliver more heat per pound of material than any other known system of heating. Models available for steam or hot-water heating systems, also self-contained gas-fired models.



DUST PROBLEM?

If you have a problem along the lines of dust and fly ash collection, American Blower will be glad to help you. We have a wealth of experience in this field that covers not only dust and fly ash removal in industry and public utilities, but also the recovery of valuable materials from air. In addition to local, on-the-spot assistance from our branch office personnel, a modern, fully equipped dust laboratory is maintained in Detroit to serve you.



MORE EFFICIENT POWER

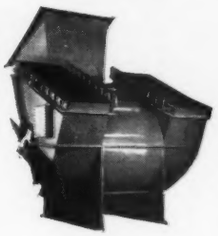
If you're faced with the need of expanding or enlarging power plant facilities, consult American Blower. You'll find our Mechanical Draft Fans help you meet the most exacting power plant requirements. High static efficiency, low RPM, low tip speed and low inlet velocity are but a few of the many reasons these fans have enjoyed such wide acceptance. Types for both forced and induced draft work.

YOUR BUSINESS

No matter what business you're in, you can count on American Blower heating, cooling, drying, air conditioning or air handling equipment to do the job better, more economically. Phone or write our nearest branch office for data.



Unit Heaters



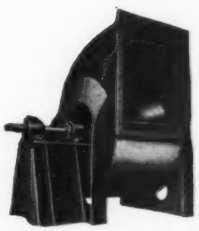
Mechanical Draft Fans



Dust Collectors



Gýrol Fluid Drives



Industrial Fans

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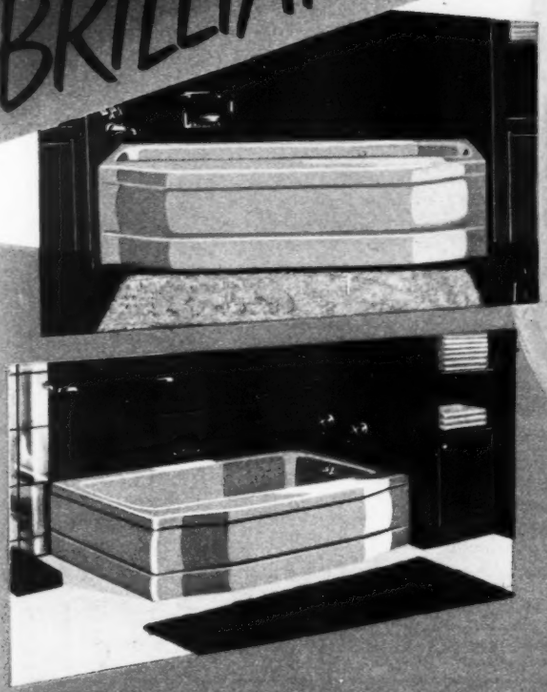
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Here is the BRILLIANT NEW LINE of BRIGGS Beautyware





FORMED STEEL BATHTUBS and LAVATORIES!

Briggs announces a complete new line of porcelain enameled formed steel bathtubs and lavatories—new in design, new in styling, new in *many* important ways!

Sweeping new contours of the spacious Briggs Beautyware tubs taper off at the ends of the front panel to a vertical edge, eliminating any need to cut and fit adjoining wall tile. For added comfort, tubs are built with a sloping back rest. Such famous features as the Safety Bottom and integral lip flange are, of course, retained.

Reflecting quality in every detail, the new lavatories have been deepened for greater water capacity, beautified with a wider front apron, and provided with increased shelf space for toiletries.

Like all Briggs Beautyware, the new fixtures are produced only in the finest stain-proof, acid-resistant grade —the perfect complement to Briggs' famous line of vitreous china ware. Colors include Sandstone, Sea Green, Sky Blue, Ivory and White.

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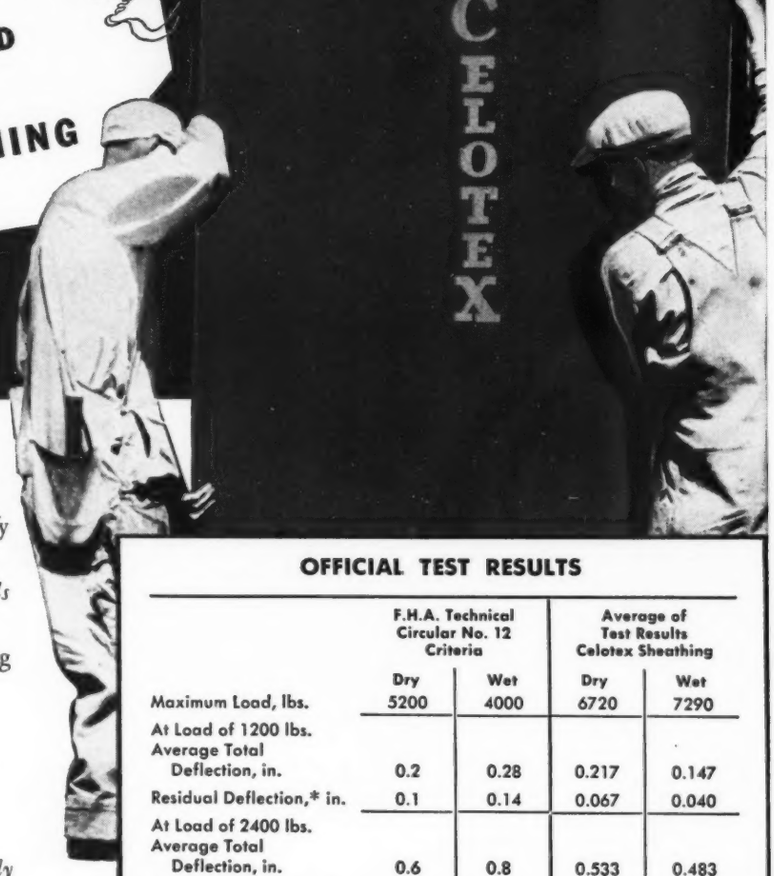
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Saves the Cost of Corner Bracing on Every Home...

One more reason why your specifications should call for

CELOTEX
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DOUBLE-WATERPROOFED
4 ft. Wide, 25/32"
INSULATING SHEATHING



You eliminate the expense of corner bracing . . . yet assure better, stronger walls . . . when you specify 4-ft. wide, 25/32" thick Celotex Insulating Sheathing. Without corner bracing it *greatly exceeds* rigid F.H.A. requirements, which call for bracing strength at least equal to horizontal wood sheathing *with* corner bracing. Official test results at right prove it!

And remember, Celotex Double-Waterproofed Insulating Sheathing *insulates as it builds*—does both jobs at one low cost. Stronger, more rigid than ever! Faster, easier to apply! And it's the *only* sheathing made of tougher, stronger long Louisiana cane fibres—and protected by the patented Ferox® Process from dry rot and termites!

OFFICIAL TEST RESULTS

	F.H.A. Technical Circular No. 12 Criteria		Average of Test Results Celotex Sheathing	
	Dry	Wet	Dry	Wet
Maximum Load, lbs.	5200	4000	6720	7290
At Load of 1200 lbs. Average Total Deflection, in.	0.2	0.28	0.217	0.147
Residual Deflection,* in.	0.1	0.14	0.067	0.040
At Load of 2400 lbs. Average Total Deflection, in.	0.6	0.8	0.533	0.483
Residual Deflection,* in.	0.3	0.4	0.230	0.187

*Deflection remaining after removal of load

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EXTRUDED ALUMILITED ALUMINUM PRODUCTS



Monastery entrance of the Holy Family Monastery and Retreat House, Farmington, Conn. Designed by Provost and Wright, Architects, and installed by Boston Plate and Window Glass Company, Boston, Mass. Contractor, Gilbane Construction Co. "Extrud-A-Line" Custom-Built Aluminum Construction used.

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Sold and installed by Glass Distributors and Dealers throughout the U. S., Canada and other Countries.

The natural beauty of Alumiline designs is *enhanced and preserved* by our corrosion-resistant Alumilited all-weather finish, electrolytically applied at the factory . . . helps protect from scratches and marring.



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NEW low-cost heating system combines advantages of direct and radiant heat . . .



Vitrified CLAY BELL AND SPIGOT PIPE HEATING DUCTS
FOR THE *NEW BASEMENTLESS HOMES*

It's a completely new idea in low-cost home heating — already proven by many hundreds of amazingly efficient installations. Vitrified Clay Bell and Spigot Pipe heating ducts, embedded in concrete floor-slabs, *combine* the advantages of radiant and direct heat to insure American families the *best* in heating for their housing dollar.

Why is Vitrified Clay Bell and Spigot Pipe ideal? Because it doesn't *wear out.* Unlike metal, it's chemically inert . . . completely unaffected by lime in the concrete or by furnace gases. It never rusts, corrodes, or disintegrates. The concrete floor-slab need never be ripped up for expensive, difficult maintenance work.

And Clay Pipe is easy to handle and install — quickly, without special equipment or highly skilled labor. It goes down fast and goes down *to stay,* because the bells and spigots hold the line in place and Vitrified Clay Pipe *lasts forever.*



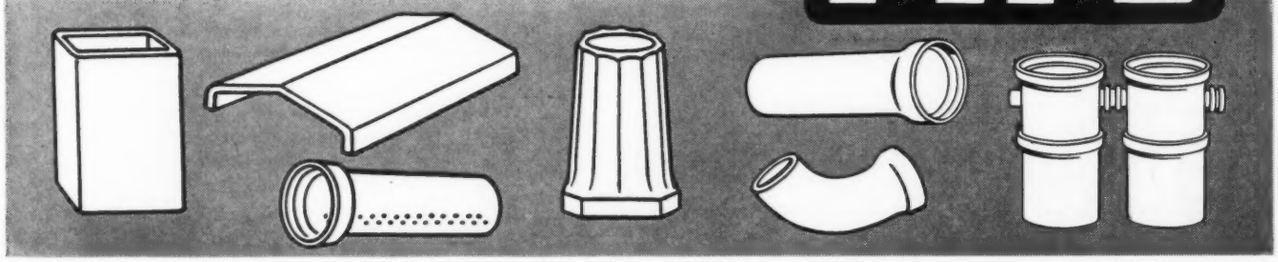
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CLAY PIPE NEVER WEARS OUT!
PIPE

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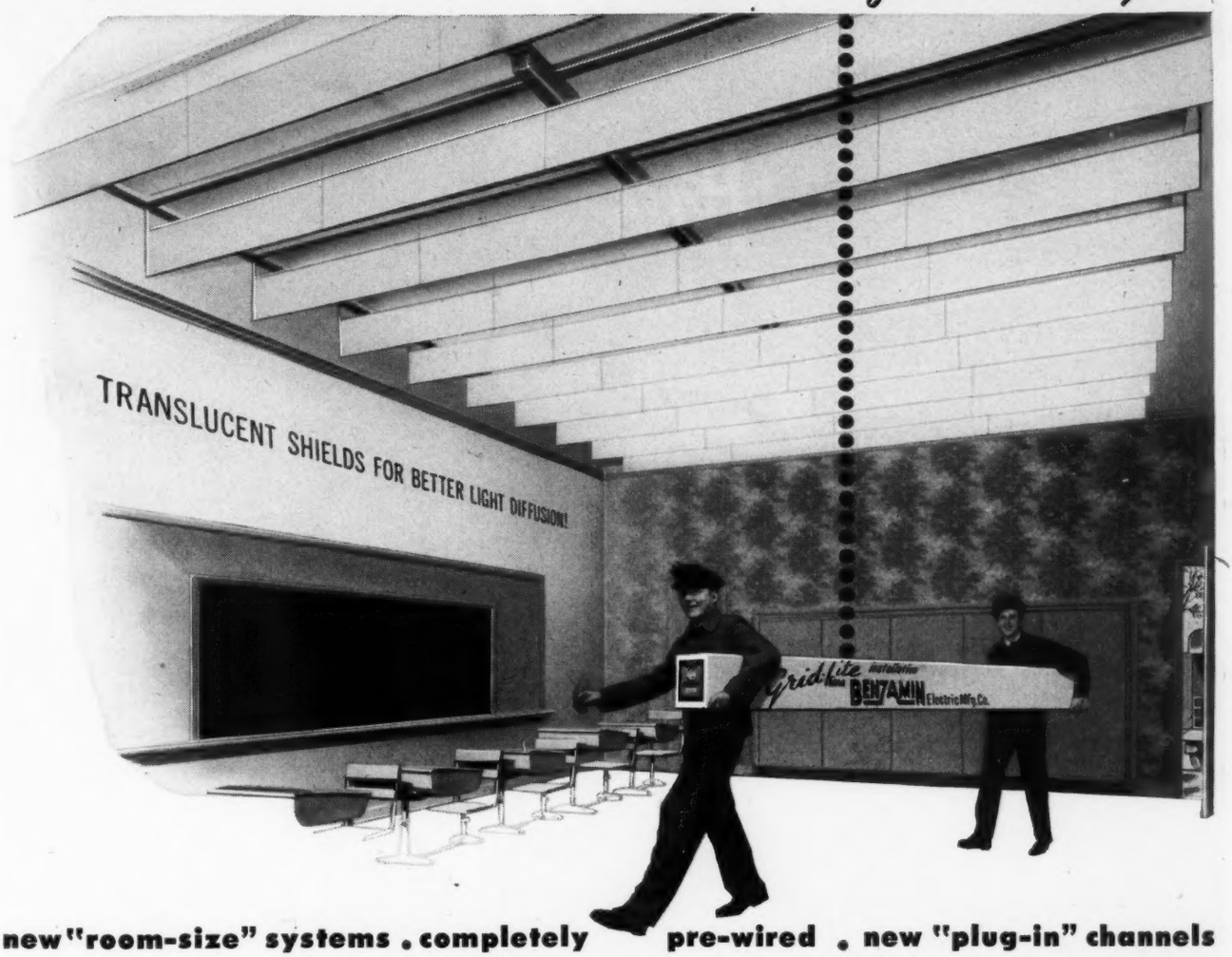


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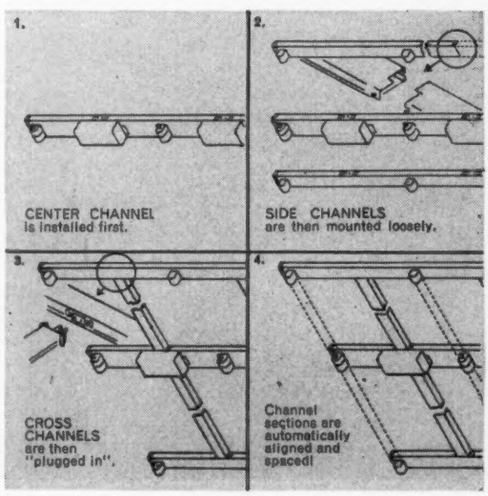
entirely new "Grid-Lite"

so simple to install, you put it up

Right Out of the Package!



new "room-size" systems . completely pre-wired . new "plug-in" channels



SIMPLICITY is the keynote of this newest Benjamin Lighting System. Ultra-modern "Grid-Lite" provides the high lighting efficiency, quality diffusion and proper shielding so needed for schoolrooms, stores, drafting rooms, offices and similar workspace. With "Grid-Lite" you get that wanted "ceiling of light" effect *economically.* This is made possible by a simply-constructed, pre-wired grid arrangement of lamps and channels, with light-diffusing, easy-to-clean shields of translucent plastic.

PRE-WIRING plus "PLUG-IN" CHANNELS, as shown at left, make "Grid-Lite" extremely simple and inexpensive to install. "Grid-Lite" is simple to specify, too. An entire 16′ x 24′ "room-size" system, including all channels, ballasts, shields and fittings, may be ordered by ONE CATALOG NUMBER! In addition, combinations of 2 or 4-lamp "sub-assembly" sections may be specified for rooms of other sizes.

Get complete details by writing for FREE "Grid-Lite" DATA BULLETIN. Address: Benjamin Electric Co., Dept. Q-1, Des Plaines, Illinois.

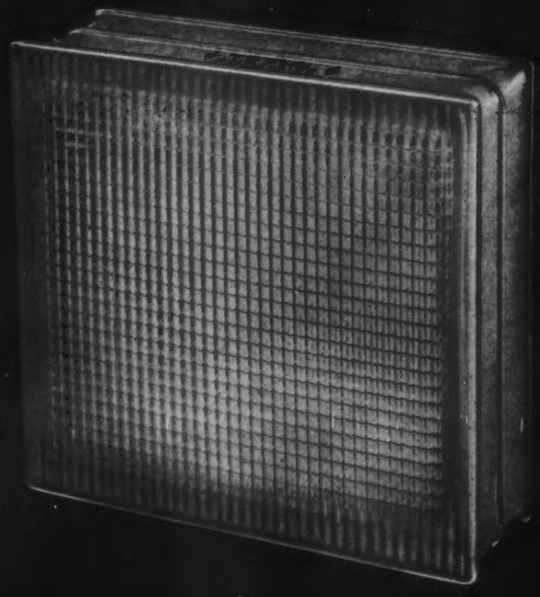
CHOICE OF LAMPS and BALLASTS! "Grid-Lite" is available for 96″, 72″ and 48″ T12 Slimline Lamps, with 425MA or 200MA ballasts for low brightness lamp operation.

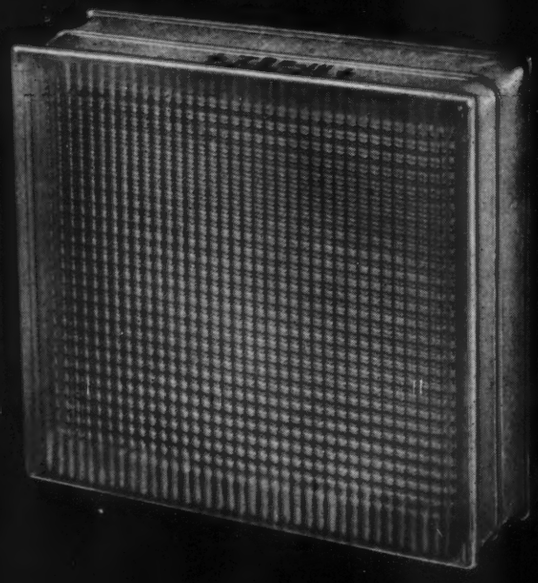
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the "BIG"





12-INCH PRISM A 55 BLOCK. For non-sun exposures. Transmits 30% more light than any other light-directing pattern. For use above eye level where generous light transmission really counts. (Perfect companion block for the 12-inch below-eye-level PC Saxon pattern.)

12-INCH SOFT-LITE PRISM B 55 LX BLOCK (with fibrous glass insert). For use above eye level on sun-exposed walls where light control is most important, this block transmits abundant daylight but with 20% less brightness than any other light-directing pattern.

announces 3"

. . . new 12-inch functional glass blocks assure better control of daylight with more light . . . lower brightness . . . less cost per square foot



12-INCH SOFT-LITE ESSEX B 55 LX BLOCK (with fibrous glass insert that forms a double cavity to reduce solar heat gain and make interiors more comfortable winter and summer). For light diffusing control. Matches new 12-inch Soft-Lite Prism B 55 LX Block.

▶ Now, from the PC Daylighting Research Center come three new 12-inch blocks that permit the architect far greater latitude in design. They supplement the widely accepted 8-inch "55" line functional patterns.

Two of these new blocks are for use on sun exposures, the other for use on non-sun exposures. And because of their larger size, any glass block panel composed of these 12-inch blocks will contain more glass, less mortar . . . will transmit more light and control it more effectively . . . will cost less per square foot than panels made up of smaller blocks.

Made of durable structural glass, these new blocks offer many advantages. Their spread-lens face corrugations insure a wide azimuth light acceptance on the outside face, and inside the building spread daylight into every corner.

Their dimensions are modular, and they therefore permit coordination with other building materials to achieve waste-free construction economy.

The "Big 3" also features: Soft-Lite edges, that reduce brightness contrasts; colored markings for ease of installation; and the PC Clean-Easy face finish to assure easier and quicker clean-up after installation, and maintenance economy over the years.

We invite you to write us today for complete information on the full line of 8-inch and 12-inch Pittsburgh Corning Functional Glass Blocks.

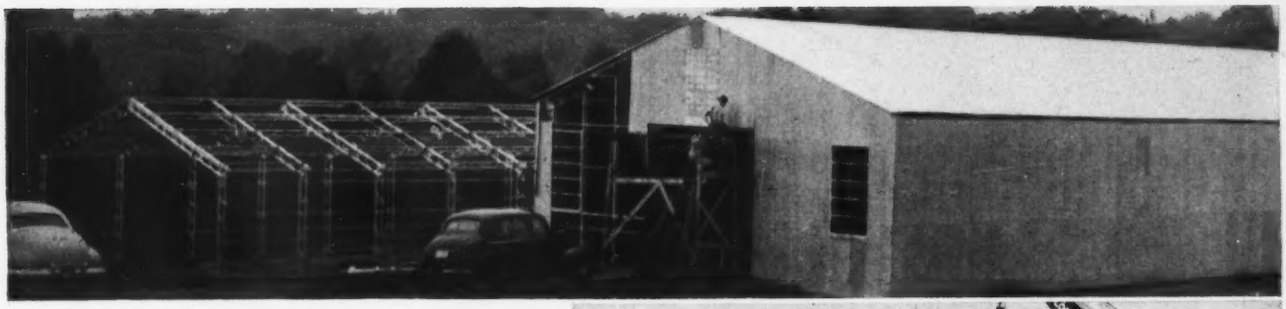
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The mark of a modern building

Distributed by Pittsburgh Plate Glass Company; W. P. Fuller & Co. on the Pacific Coast; Hobbs Glass Ltd. in Canada; and by leading distributors of building materials everywhere.



CONSTRUCTION'S MOST INTERESTING TREND TODAY

The application of Light Steel Framing members seems unlimited if the diversified uses we have engineered and fabricated to date are any criterion of 1952.

These nailable steel framing members work as well in the high pitched roof of a church as they do in the low and rambling plan of the modern elementary school building.

As each project is individually engineered to the load and dimensions of a particular need, we invite your contact on any specific project for cost analysis.







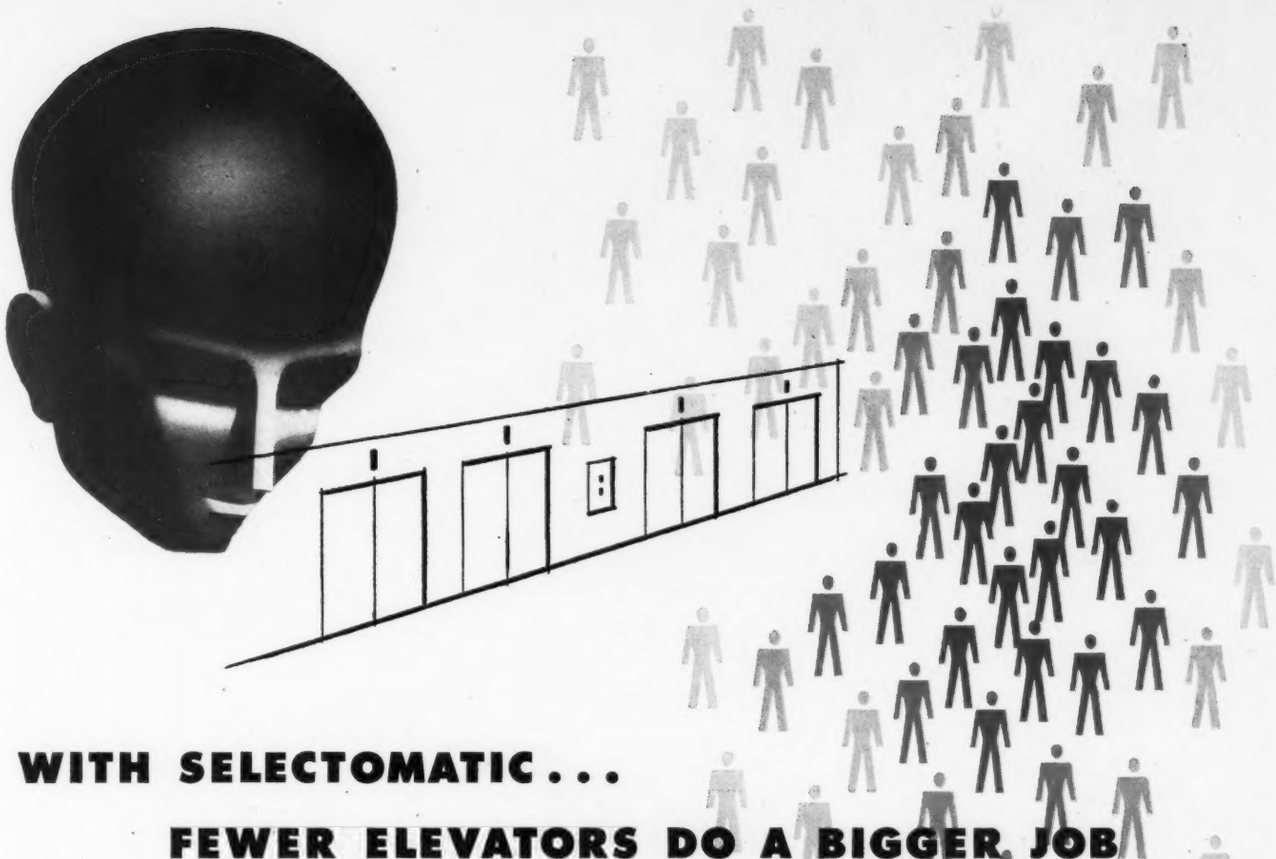
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WITH SELECTOMATIC . . .

FEWER ELEVATORS DO A BIGGER JOB

How would you go about getting more elevator service in any building? Most people would say, "Put in more elevators." And if you were thinking in terms of an ordinary elevator system, you'd be pretty close to the truth. But—(and pardon our pride) you'd be far from right if you were thinking about the new Westinghouse Selectomatic system.

Selectomatic is the system that *thinks* and *plans* before it acts. Because of Selectomatic's ingenious "electrical brain," calls, cars and floors are instantly and automatically matched. Result—the elevator system that's so efficient it solves traffic problems with fewer elevators!*

And what's more—Selectomatic is the only system that gets you from floor to floor so fast, yet so smoothly, that you can hardly tell a start from a stop.

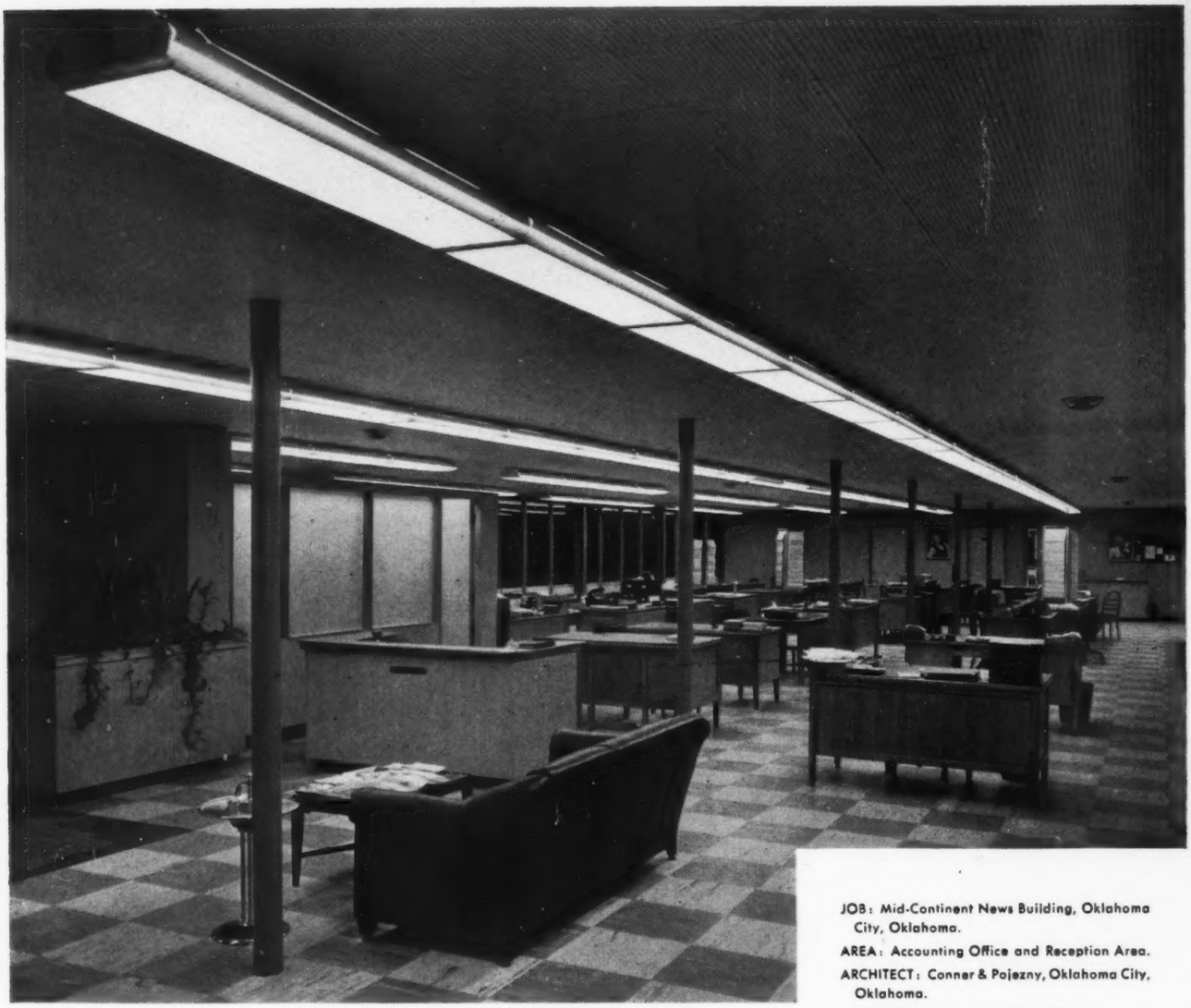
So, if you're planning an investment in elevators—*test ride Selectomatic before you decide.* For information on Selectomatic installations you can "test-ride" in your locality, write Westinghouse Electric Corp., Elevator Division, Dept. D-1, Jersey City, N. J.

*Case histories given upon request.

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YOU CAN BE SURE...IF IT'S **Westinghouse**

J-98595



JOB: Mid-Continent News Building, Oklahoma City, Oklahoma.
AREA: Accounting Office and Reception Area.
ARCHITECT: Conner & Pojezny, Oklahoma City, Oklahoma.
CONSULTING ELECTRICAL ENGINEER: L. B. Perkins, Oklahoma City, Oklahoma.
ELECTRICAL CONTRACTOR: Galloway Electric Company, Oklahoma City, Oklahoma.
FIXTURES: Litecontrol #4124 2-lamp surface type louvered fixtures with downlight reflectors.
SPACING: 9′ on centers.
WATTS PER FIXTURE: 100.
INTENSITY: Average 40 footcandles in service.

A Good Place to Work, as
YOU CAN SEE

. . . with lighting by LITECONTROL

Here's an office that's geared-for-business in a pleasant, profitable way.

Modern, comfortable furnishings blend with the functionally styled interior . . . all brightened with the engineered lighting by LITECONTROL.

The No. 4124 2-lamp louvered fixtures provide all the essentials to good office lighting: low brightness, trim appearance, evenly illuminated louvers, ease of installation, ease of maintenance.

All of this, mind you, in a fixture that is "custom" *in everything but price.*

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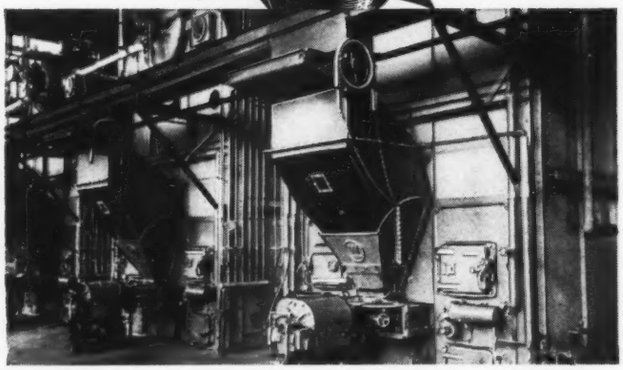
"Orchids to Oppenheimer!

THAT NEW COAL HEATING SYSTEM HE DESIGNED SAVED $14,000 THE FIRST YEAR!"

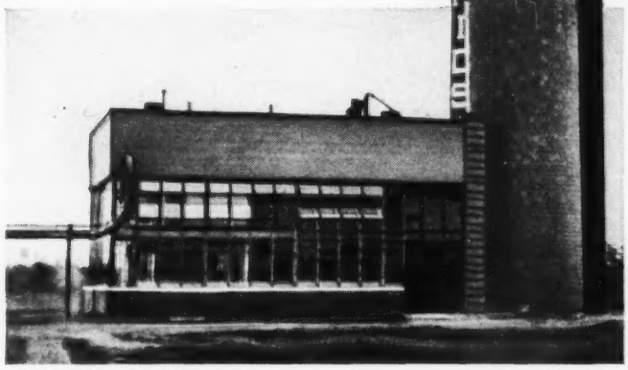
says Carl R. Beckert, President, Thomas Young Orchids, Inc., Bound Brook, N. J.



"We're the largest orchid-growers in the world—Phil Oppenheimer is our consulting engineer. Had to have the most *dependable* heat we could find—steady, quickly available—to protect two million dollars' worth of orchid plants. Our new coal-fired plant gives us that kind of heat—in addition saved us $14,000 the first year! We've discovered that with modern equipment coal is as clean and automatic as any other fuel—and to do the job with oil would have meant an overall cost of 16% more! More than that, we can't take a chance on uncertain winter fuel deliveries. With *bituminous* coal we can store a year's fuel supply right on the ground."



The firing aisle at the new plant. This highly efficient coal equipment cut the company's fuel costs by 23%—is so completely automatic that it saved $6,000 the first year on labor costs, too!



This 300-ton silo that Young installed does away with former handling and shovelling costs. Coal is fed from the silo by a screw conveyor to each boiler's stoker-hopper—the coal is weighed on its trip.

- Use coal now? Get ALL coal's economy with highly efficient modern equipment. Building a new power plant? Find out how much more economical, efficient a job *bituminous* coal can do. Call in a competent consulting engineer. He can show you the modern coal-handling and combustion installations that will save most while meeting your particular needs. Remember you can count on *bituminous* coal! Of America's total fuel reserve—92% is coal! Even today oil is *imported*—while America can and does *export* coal! Ample coal reserves plus the outstanding efficiency of America's mining companies give coal users *the greatest possible assurance of a dependable fuel supply at stable prices.*

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COAL in most places is today's most economical fuel.

COAL resources in America are adequate for all needs—for hundreds of years to come.

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COAL prices will therefore remain the most stable of all fuels.

COAL is the safest fuel to store and use.

COAL is the fuel that industry counts on more and more—for with modern combustion and handling equipment, the inherent advantages of well-prepared coal net even bigger savings.

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FOR HIGH EFFICIENCY *FOR LOW COST*

YOU CAN COUNT ON COAL!



Get better radiant heating systems, savings, too, with Bundyweld Tubing

Take those ceiling installations for instance. With Bundyweld you can pare fabrication costs, cut installation time, get reliable, money-saving performance year in, year out.

At your shop or building site, you easily, safely bend standard twenty-foot lengths of ductile Bundyweld into coils. No structural collapse worries. You quickly join the formed tubing by soft- or hard-soldering the expanded (if specified) ends. Only two men needed to mount lightweight, rigid coils. No sags, no dips, no denting worries.

In your finished ceiling installation, Bundyweld performs better, too. It transmits heat quickly. It's leakproof (has great bursting strength). It's scale-free, bright and clean, with uniform I.D. and O.D.

Those proved advantages (and many more) are yours with Bundyweld. It's the *only* tubing double-walled from a single strip, with inside and outside beveled edges. Walls are copper-brazed solid through 360° of contact, copper-coated inside and out.

Check *Sweet's Architectural File* for details. Or write for illustrated brochure. Radiant Heating Division, ***Bundy Tubing Company, Detroit 14, Mich.***

Bundyweld® Tubing

DOUBLE-WALLED FROM A SINGLE STRIP

WHY BUNDYWELD IS BETTER TUBING



Bundyweld starts as a single strip of copper-coated steel. Then it's . . . continuously rolled twice around laterally into a tube of uniform thickness, and passed through a furnace. Copper coating fuses with steel. Result . . . Bundyweld steel tubing, double-walled, and brazed through 360° of wall contact.









NOTE the exclusive patented Bundyweld beveled edges, which afford a smoother joint, absence of bead and less chance for any leakage.

For Architects and School Administrators

"School Planning" Data Book

...a decade of school planning information from the pages of ARCHITECTURAL RECORD... now assembled in one volume.

Spurred on by the pressing problem of overcrowded classrooms, in outmoded buildings with inadequate facilities, school architects and school administrators, pooling their efforts, have made some remarkable contributions to the advancement of school design during the past ten years . . . contributions that unquestionably will strongly influence the schools of tomorrow.

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Such divergent subjects as the effect of different plan arrangements on structural costs, the trend away from textbook recitation, the relation of stairs to school units, floor area per unit, the "laboratory-type" program of instruction, audio-visual education are analyzed and discussed by experts.

Many Outstanding Contributors

Far from being the work of a single man or even a group of individuals, "School Planning" represents the distilled experience of literally hundreds of architects and school administrators who have specialized in scholastic problems, including such well-known authorities as Ernest J. Kump, Lawrence B. Perkins, Philip Will, John E. Nichols, N. L. Engelhardt, Stanton Leggett, Richard Neutra, Alonzo J. Harriman, John Lyon Reid and many others.

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What Price Schools?

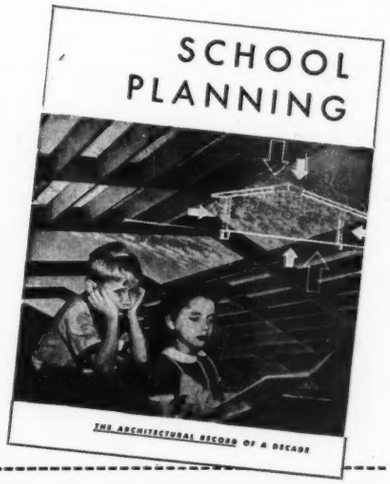
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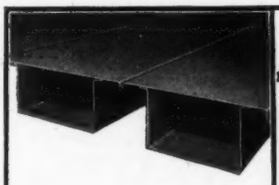
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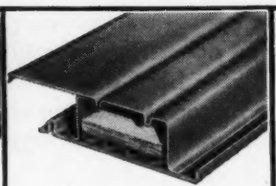
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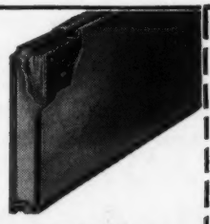
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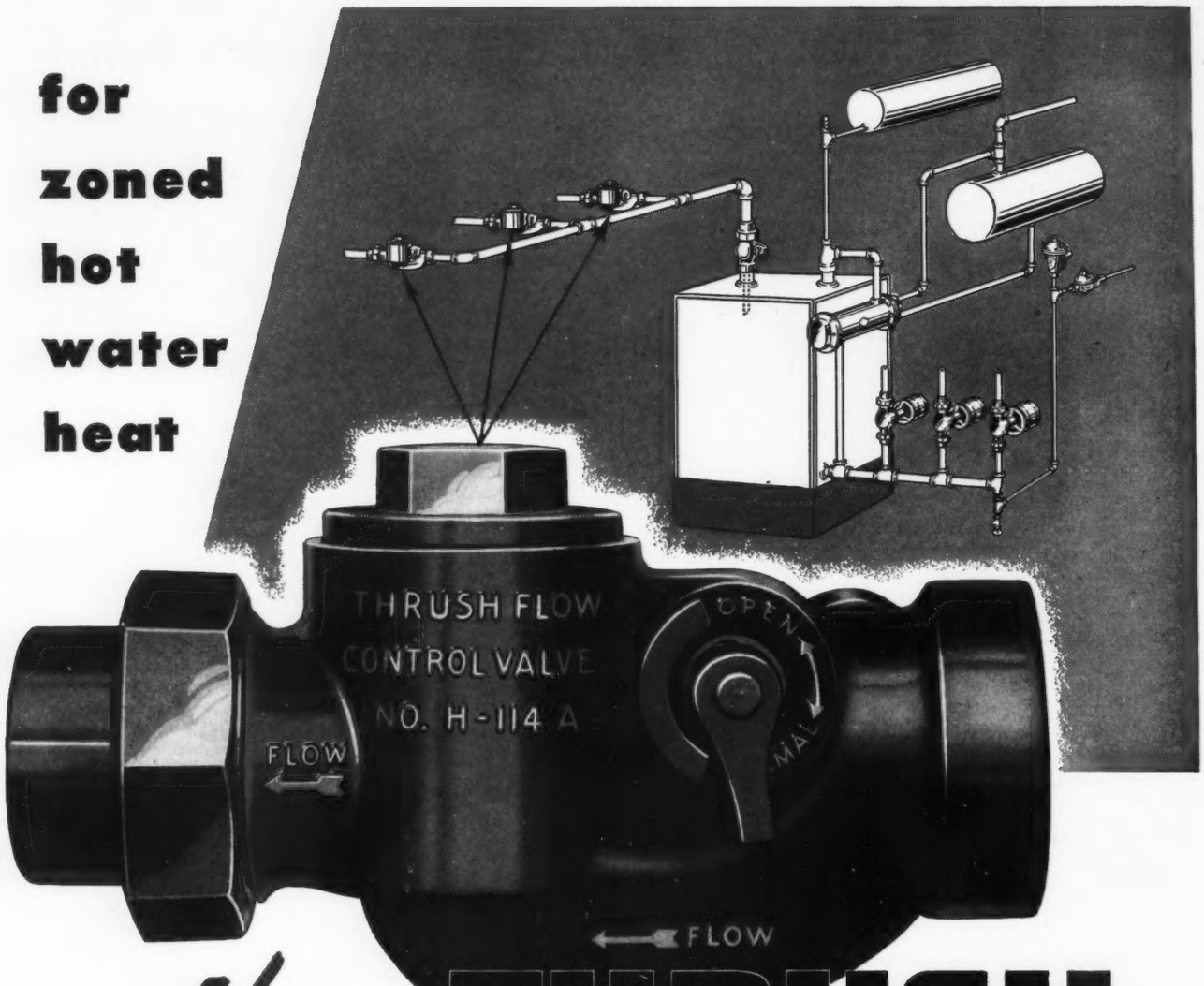
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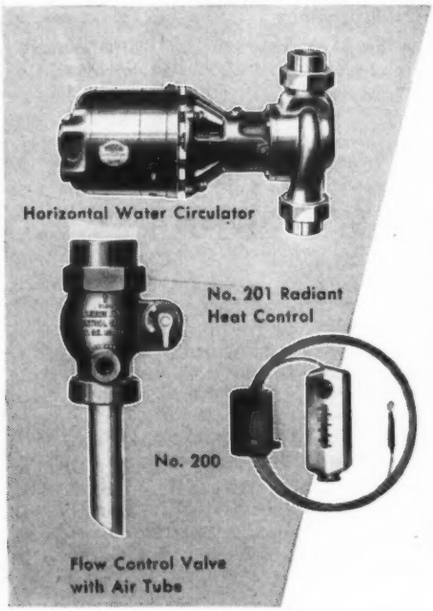
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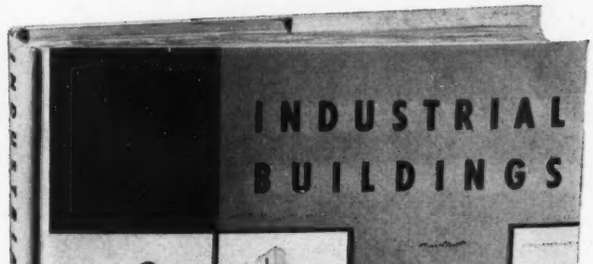
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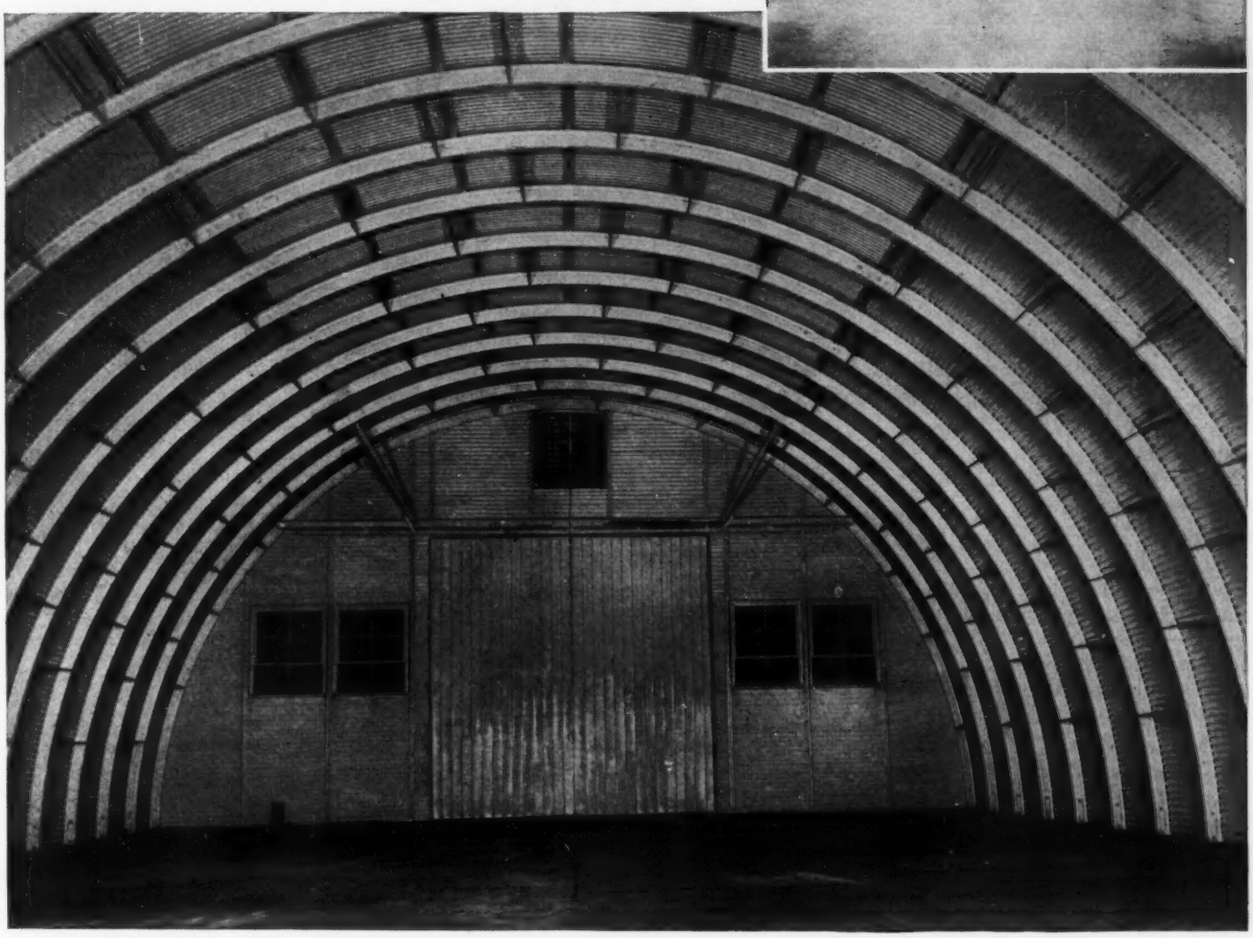
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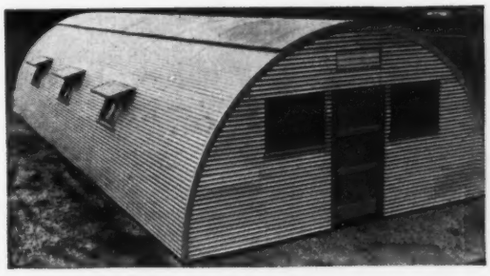
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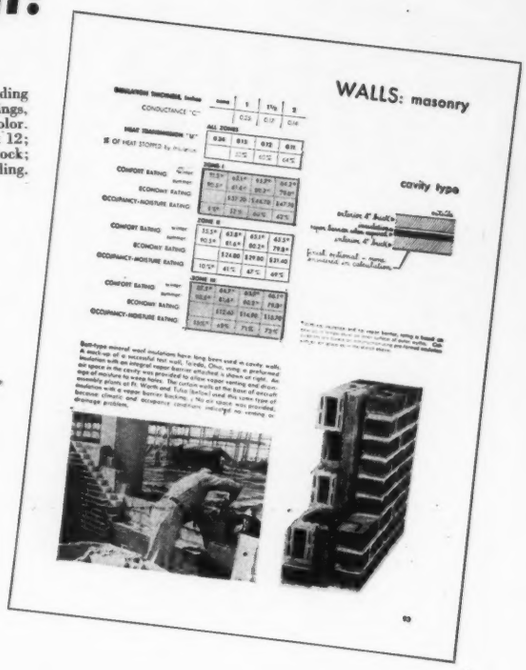
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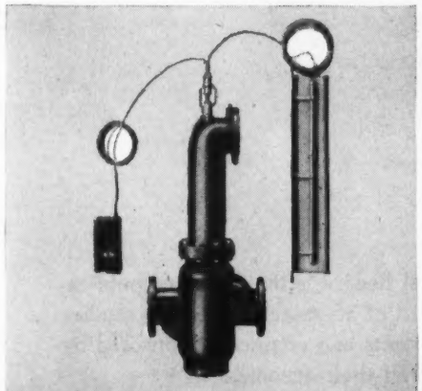
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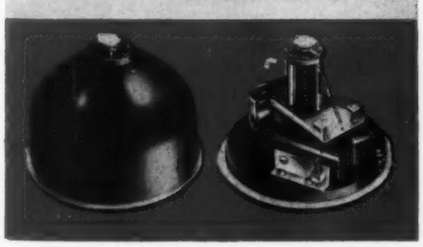
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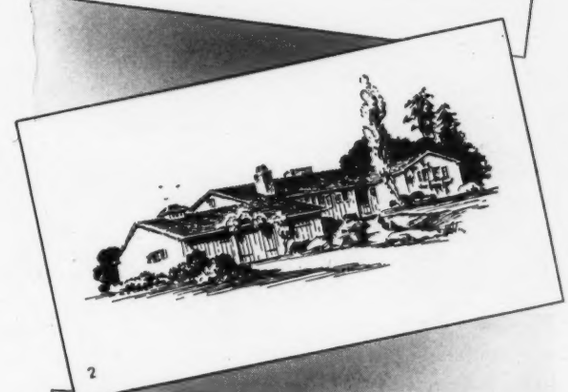
The heart of the Sarcotherm control system of forced hot water or radiant heating is this unique control valve. It is actuated by liquid expansion thermostats, one located outside the building and one in the valve itself. Between them they vary the proportion of system water re-circulated, to maintain the desired room temperatures.



The Sarcotherm Comfort Control Thermoray is an extremely sensitive thermostat affected by both radiation and convection.

While designed for radiant heating, it is equally effective controlling circulating pumps, motorized valves, or electrically heated panels.





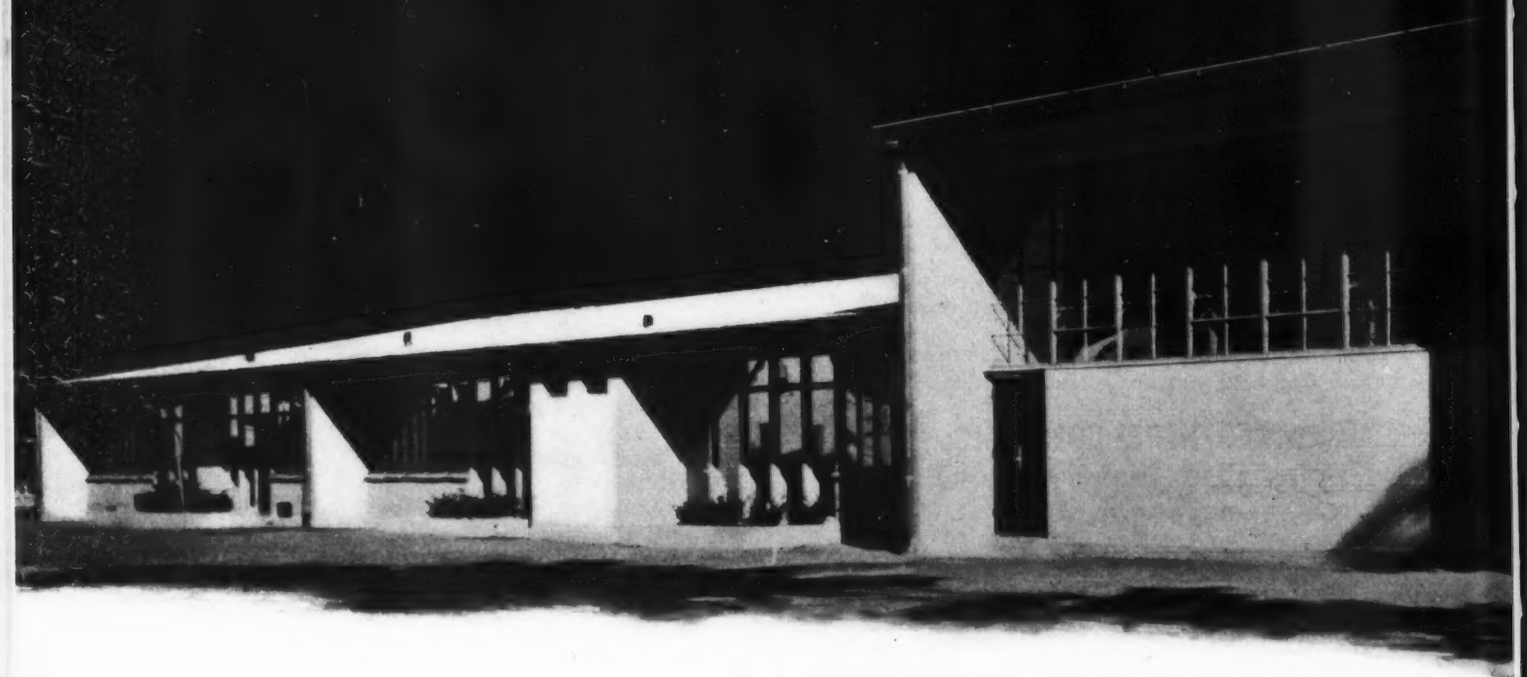


Three typical residences at Smoke Rise, designed by Carl Kemm Loven, A.I.A., Architect:

1. William Nicholson III
2. Douglas Weller
3. John D. Foley

21

Only one magazine . . . **Architectural Record** to serve the architects and engineers who control 85% of today's dynamic building market!



that's why...

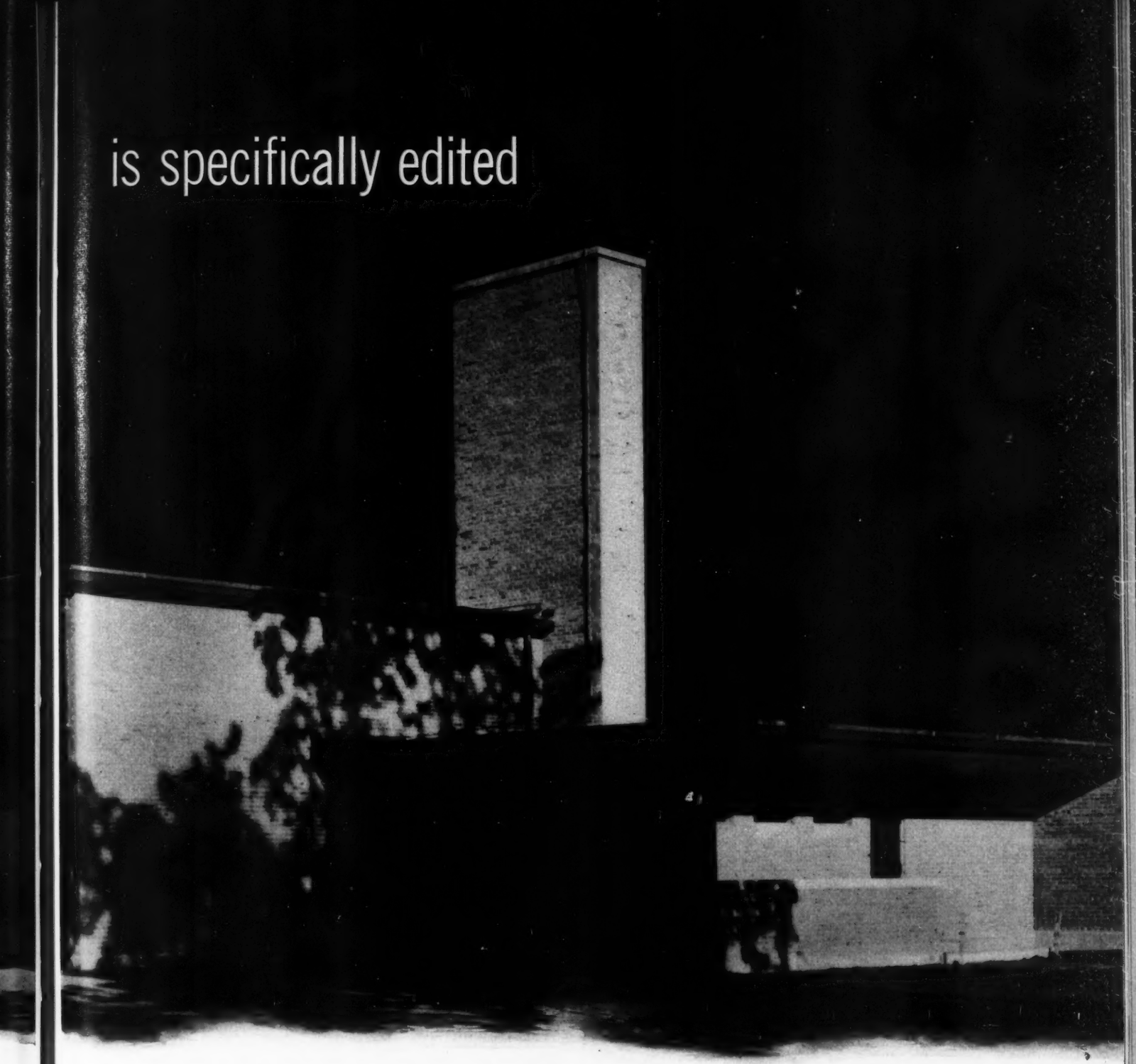
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Architect-engineers: Perkins & Will, Chicago; Photographer: Hedrich-Blessing Studio.

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LOngacre 3-0700

F.W. DODGE CORPORATION



Edgebrook Elementary School, McHenry, Ill. Architect—Raymond A. Orput, Rockford, Ill.

Nobody's too old to learn here

Even for the school board members, there's a lesson here. And for architects it's a lesson just as applicable to a new hospital, home, office or factory as it is to a school.

It's a lesson in good daylighting by means of Daylight Walls, in order to end eye-abuse. Experts on eye comfort believe insufficient light has been responsible for most of the eye-weakness now prevalent. Daylight Walls are designed to help correct this condition.

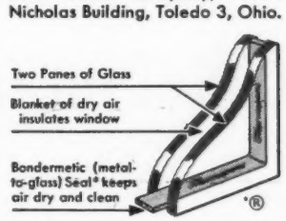
A Daylight Wall uses clear, flat glass because clear glass transmits more light than glass in any other form. The glass extends from wall to wall and from sill all the way to the ceiling. This admits as much light as possible. Shadows, which cause glaring contrasts, are avoided when Daylight Walls are properly used. Notice the evenness of the lighting in this photograph taken without the aid of artificial lights.

Daylight Walls have the additional advantage of permitting natural ventilation near the ceiling where it is most needed. A sense of spaciousness, also, comes from Daylight Walls because clear glass does not obstruct vision. The lines of the ceiling seem to merge with the sky, uniting the outdoors with indoors.

People like this. People like Daylight Walls — with lots of light, a view, a feeling of not being cooped up. The lesson here is that Daylight Walls are today's walls for *any* room in which you are going to put people.

FOR WINDOW INSULATION

Thermopane* insulating glass is widely and successfully used. *Thermopane* with ½" of dry air hermetically sealed between two panes has twice the insulating value of single glass. This minimizes chilliness, drafts and heat loss at windows. *Thermopane* cuts air conditioning costs by reducing the amount of heat entering during summer. Write for *Thermopane* literature. Libbey-Owens-Ford Glass Company, 4112 Nicholas Building, Toledo 3, Ohio.



L-O-F GLASS

DAYLIGHT WALLS

THAT DON'T OBSCURE VISION

THERMOPANE • PLATE GLASS • WINDOW GLASS

Other L-O-F Glass Products: Vitrolite Safety Glass E-Z-Eye Safety Plate Tuf-flex Plate & Doors Fiber-Glass



BRIXMENT

is more economical!

ASIDE from the brick, the most expensive item in masonry work is the *bricklayer's time*. Therefore the most economical mortar you can use is the one that enables the bricklayer to lay the most brick per day. Brixment mortar saves bricklayers' time because it is more plastic and stays plastic longer:

(1) Requires less chopping and retempering on the board.

(2) Works faster and easier.

(3) Sticks to the brick — saves unnecessary stooping to the board for more mortar.

(4) Easier to tool.

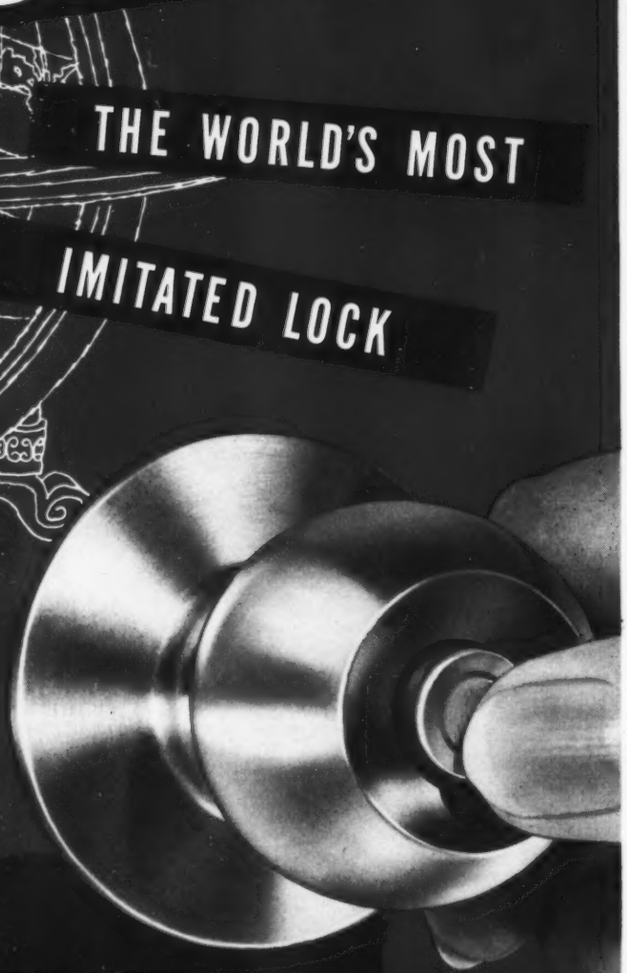
(5) Doesn't gum up the trowel — makes a neater job that costs less to clean down.



LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY

SCHLAGE®

THE WORLD'S MOST IMITATED LOCK



SCHLAGE CONVENIENCE

Schlage Locks are easy to operate. To lock, just push the button—to unlock, just turn the knob. The convenient center-of-knob location for both the push button and key cylinder allow for simple, one-hand operation.

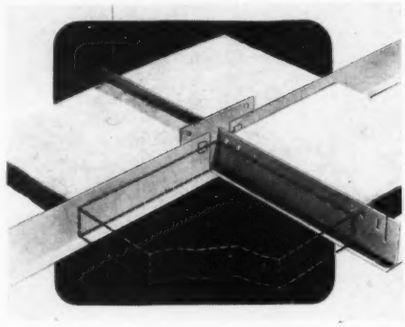
SCHLAGE

SCHLAGE LOCK COMPANY
SAN FRANCISCO NEW YORK

PRODUCTS (*Continued from page 167*)

Suspended Ceiling System

Designed to accommodate any type or thickness of insulation and acoustical panel materials, the *Drive-Lok* suspended ceiling system utilizes only 2 parts, a metal Tee bar and an all-purpose metal clip, as the basis for all installations. The Tee bars are hung on suspension wires from the building structure above to form a gridwork tied together at intersections with the all-purpose clip, resulting in a continuous tie from wall to wall in both directions.



Tee bars and all-purpose clip form grid support for panels

The ceiling panels are laid between the tees. Since it is very light in weight, the system can be installed often in buildings which were not originally designed for ceiling loads. The units are described as being easy and rapid to install and can be removed and reinstalled with almost complete reuse of materials. The system is incombustible, and access to light fixtures and air conditioning units is simplified, since each ceiling panel is in effect an attic scuttle. Lok-Products Co., 4877 San Fernando Rd. West, Los Angeles 39, Calif.

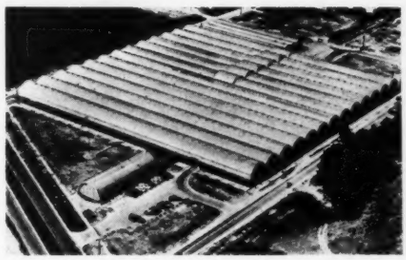
Large Area Quonset Buildings

An addition to the already well-known line, the *Quonset Long-Span* prefabricated building is said to provide a structure suitable for most industrial and commercial requirements without using hot-rolled structural steel. The building is framed with members made from cold-formed strip steel, and is available in a wide range of widths and lengths. Interior columns are 40 ft apart along the building's depth and 35 ft,

(*Continued on page 231*)

PRODUCTS (*Continued from page 230*)

6 in. across its width. This is said to provide clear-span space in dimensions ideally suited for manufacturing and warehousing. Clearance under trusses and struts may be either 15 or 18 ft as desired. It is reported that the latter height will accommodate freight cars if trackage is placed in a well within the building. The roof height provides unobstructed dome height between girders and struts of either 25 or 28 ft above the floor, a height said to be generally ample for equipment such as boilers, furnaces or dry kilns. The building has straight



Large quonset building can be had in many lengths, widths

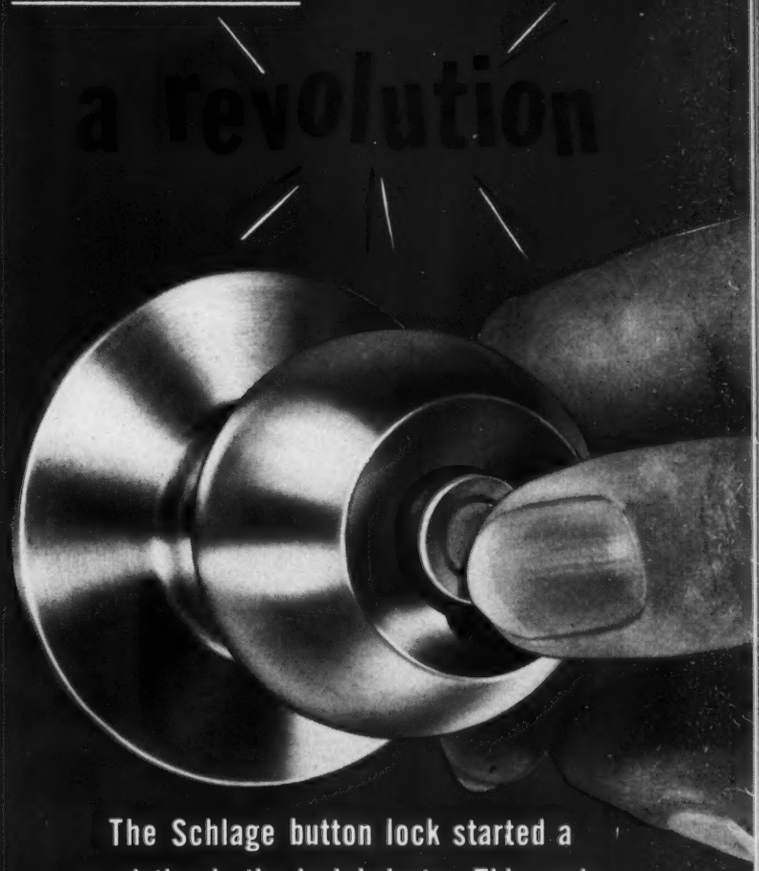
sidewalls which accommodate any kind of door. Largest installation to date is 5 acres. Great Lakes Steel Corp., Stran-Steel Div., Tecumseh Road, Ecorse, Mich.

Gas Water Heaters

A complete new line of *Seidelhuber* automatic storage gas water heaters in a full range of sizes is reported to feature the employment of 3/16 in. boiler plate and magnesium anodic rods in the construction of the storage tank. Other features include Grayson Unitrol control with complete shutoff, one-piece cast iron banjo-type burners and fibreglass insulation. Maximum diameters and minimum heights are said to allow installation of the tanks in basements and rooms with low ceilings. Controls are located behind an easily removable cover door which affords easy accessibility. The line has A.G.A. approval for natural, manufactured and propane gases and is also approved by the Canadian Gas Association. Seidelhuber Iron and Bronze Works, Inc., 3693 E. Marginal Way, Seattle 4, Wash.

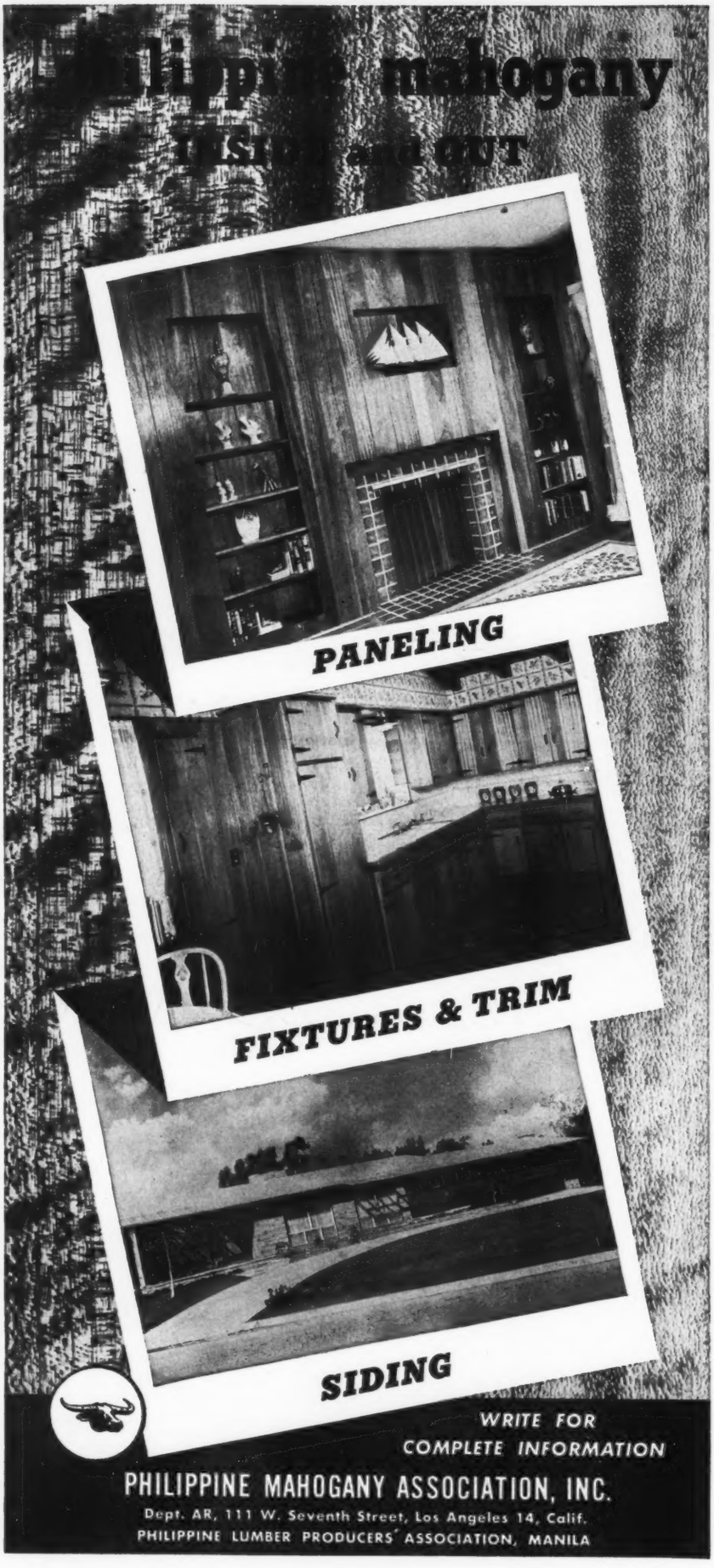
(*Continued on page 232*)

This
SCHLAGE®
button started
a revolution



The Schlage button lock started a revolution in the lock industry. This push-button lock was invented over 25 years ago by Walter Schlage. Today it is the accepted and preferred type of lock mechanism . . . the first basic improvement in lock engineering in centuries.

SCHLAGE®
SCHLAGE LOCK COMPANY
Bayshore Blvd. San Francisco
Empire State Bldg. New York

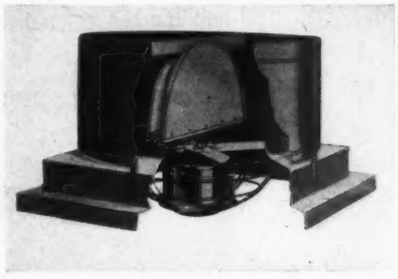


PRODUCTS

(*Continued from page 231*)

Roof Ventilator

The *Whirlout*, an addition to the manufacturer's line of powered roof ventilators is said to achieve simplified design and low overall height without sacrificing efficiency. A "straight-through" type ventilator is in open position only when the propeller fan is operating, the air stream being utilized



Damper held open by force of air stream

to open and hold in position two semi-circular halves of the damper. A streamlined fan ring directly above the square-tipped blade propeller is reported to guide the airstream smoothly, without backflow. The unit is said to be completely weathertight at all times, and is supplied in a variety of sizes and capacities. The Swartwout Co., 18511 Euclid Ave., Cleveland 12, Ohio.

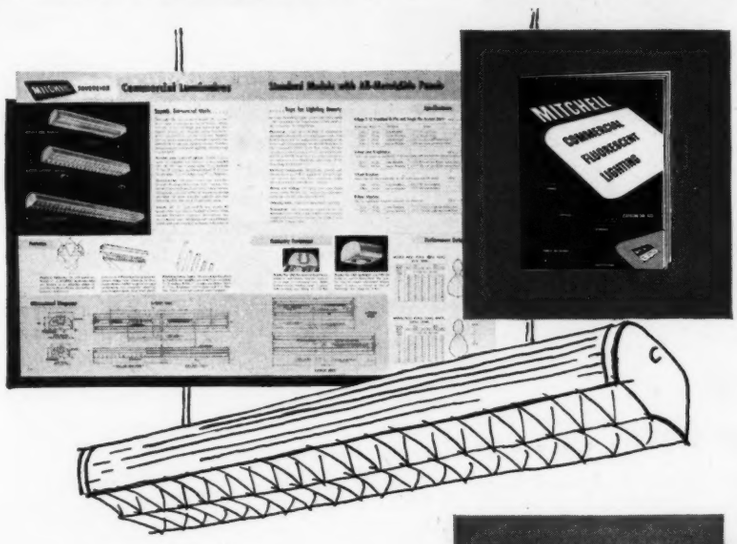
Plastic Throw Rugs

Non-skid *Suskana-Weave* throw rugs woven from twisted *Vinylite* plastic film are said to need only sponging or wiping with a damp cloth to keep clean. The rugs reportedly are resistant to moisture, mould, mildew, and a variety of corrosive chemicals and liquids, as well as scuffing and abrasion. They will not crack or crease when folded, according to the manufacturer, and are reversible, for double-duty. Color-fast, they are available in either plaids or solids, and can be had in 6 standard sizes, from 18 by 36 in. to 4 by 6 ft. They are also said to be mothproof and to absorb no allergy-provoking dusts. Susquehanna Mills, Inc., 404 Fourth Ave., New York, N. Y.

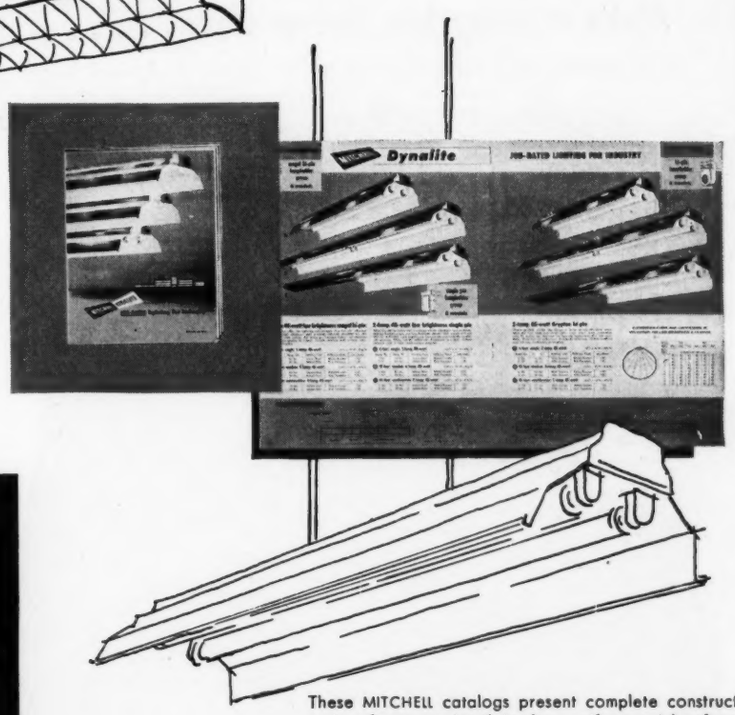
(*Continued on page 234*)

mitchell lighting easiest to specify

save time, specify properly for every lighting need with these 2 data-packed catalogs



Commercial Fluorescent Lighting
More than 70 superb Commercial Luminaires, described in detail—for quick, tailored-to-the-job specification.



"Dynalite" Lighting for Industry
You'll find it easy to specify for any industrial installation. Choose from 82 *Dynalite* Job-Rated units.

These MITCHELL catalogs present complete construction and performance details in clear, uniform, quick-reference style. You get application data, specifications, features, dimensions, curves for every model—for quick, proper specification and installation planning.

SEND FOR BOTH

MITCHELL

Mitchell Manufacturing Company, Dept. 4A
2525 N. Clybourn Ave., Chicago 14, Ill.
Please send Commercial and Industrial Lighting Catalogs.

Name_____

Firm_____

Address_____

City_____ Zone____ State____

Where Quality Counts—
SPECIFY MITCHELL!

Quality is not just a word—it is an important tangible that can be seen and measured in every MITCHELL lighting unit. These superbly engineered fixtures are built to the most exacting standards for easy, time-saving installation—for low-cost maintenance—for dependable, long-life, efficient performance. Where *quality* with sensible initial cost must be your most important considerations, in either commercial or industrial lighting—be *sure*—specify MITCHELL!

MITCHELL
Manufacturing Company
Chicago 14, Illinois
In Canada: Mitchell Mfg. Co., Ltd., 19 Waterman Ave., Toronto

Say goodbye to the hard-to-get lead pan for Tile Showers

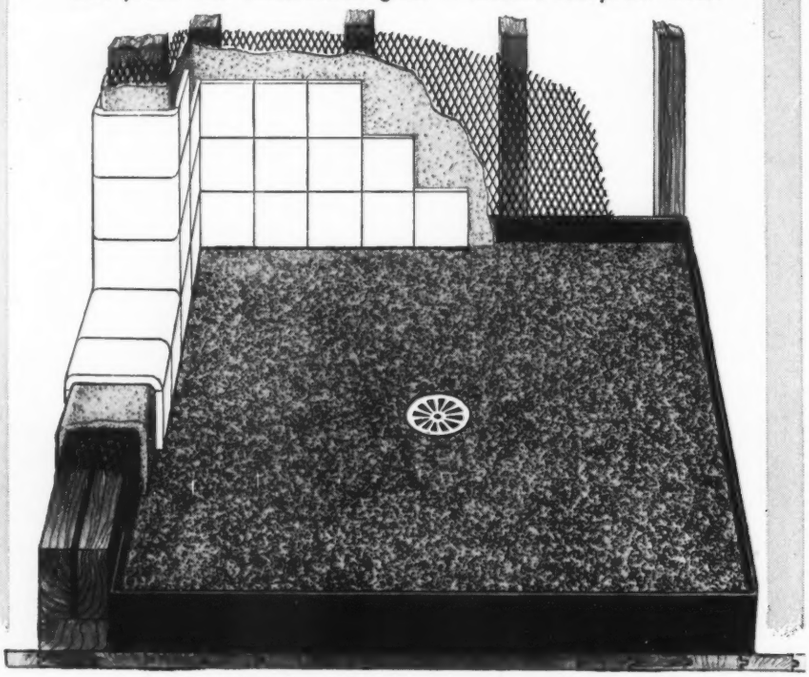


FIAT PRECAST TERRAZZO RECEPTORS

I find Fiat precast receptors make a definite saving in building tile showers.

Save money . . . Save time . . .
Make a better tile shower floor . . . . . .

One piece slab construction gives a lifetime leakproof floor.



Available for prompt delivery
See your plumbing contractor

STANDARD SIZES:

Square type 32" x 32" — 36" x 36" — 40" x 40"
Corner type 36" x 36" — 40" x 40"

The Fiat one piece precast receptor slab will not be affected by settlement of the building as would the old-fashioned "multi-layer" construction of fill, lead pan, grout and tile. The rustproof metal receptor flange encases the tile walls making a leakproof connection.

FIAT

FIAT METAL MANUFACTURING COMPANY

Three Complete Plants
(Chicago area plant) Franklin Park, Ill.
Long Island City 1, N. Y. Los Angeles 33, Calif.

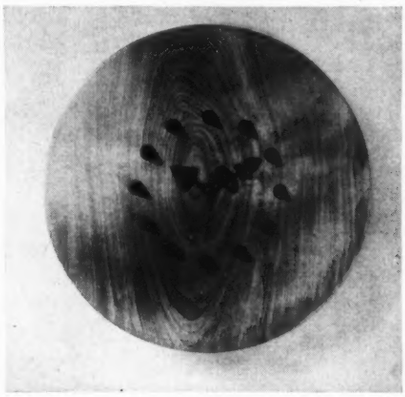
In Canada—Fiat showers are made by Porcelain and Metal Products, Ltd., Orillia, Ontario

PRODUCTS

(*Continued from page 232*)

New Clock Designs

Two new designs by George Nelson have been added to the well-known *Chronopak* series. In accordance with a government order prohibiting the use of scarce metals in clock manufacture, former models which utilized such metals had to be discontinued. However, the designs were reworked in terms of non-essential materials such as wood and lacquered metal. Both the new clocks have 14 in. diameters. No. 4757C has black hands,



Redesigned clock uses no scarce metals, has black markings on natural birch face

and knob markers on a natural finished birch face. No. 4758 is available with either lacquered black numerals and dial with white hands, or white numerals and dial with black hands. Face is either birchwood or bleached mahogany. Howard Miller Clock Co., Zeeland, Mich.

Six-Color Pencil

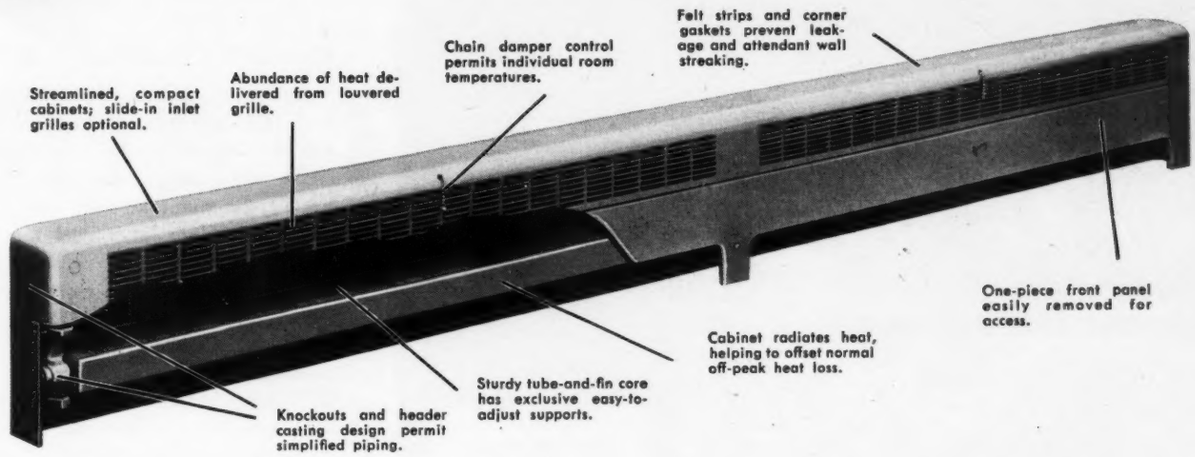
Described as the first six-color pencil ever made, the *Sparkes 66* embodies also a shock-absorber to prevent breakage of lead, an automatic lead expulsion and repulsion system and individual visible lead chambers. The colors are black, yellow, orange, red, green and blue. The leads are regular and easily replaceable, according to the manufacturer. Sparkes Products Co., 11 Commerce St., Newark, N. J.

(*Continued on page 236*)

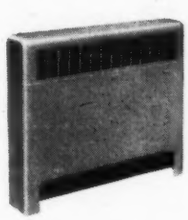
YOUNG

Low-Level Convector-Radiators

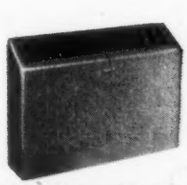
FOR INSTALLATION BENEATH PICTURE WINDOWS



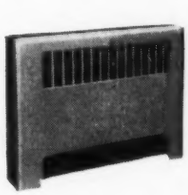
OTHER STANDARD TYPES



Free Standing Type "F"—Suitable for either free-standing or semi-recessed installation.

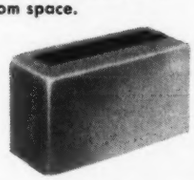


Wall-Hung Type "S"—Sloping top grille. Wall-hung model facilitates cleaning of floors.



Partially-Recessed Type "R"—Cabinet fits into wall recess conserving valuable floor space.

Type "FR," Fully Recessed Model. Designed for full utilization of room space.



Bathroom Type "B"—Compact wall-hung unit permits installation under average lavatory fixture.

Here is a Convector-radiator just 12" high, yet capable of providing a blanket of warm air for the "room with a view."

It's the Type "FL" model—the latest addition to the Young line of Convector-radiators—for use with any hot water or two-pipe steam system. Low-level cabinets are available in a wide selection of sizes, ranging from 20" to 112" in length, 4", 6", and 8" in depth, and for either free standing or semi-recessed installations.

Specify "Young" for your convector-radiator requirements. All models are tested and rated in accordance with Commercial Standards CS 140-47, as developed cooperatively by the trade and national Bureau of Standards, U. S. Department of Commerce.

Catalog No. 4150, just released, gives roughing-in dimensions, ratings, etc. Write now for your copy.

YOUNG

Heat Transfer Products for Automotive and Industrial Applications.

Young Quality

Reg. U. S. Pat. Off.

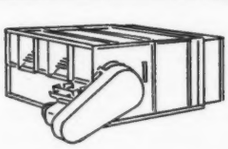
Heating, Cooling, Air Conditioning Products for Home and Industry.

YOUNG RADIATOR COMPANY

DEPT. 612-A, RACINE, WISCONSIN

Plants at Racine, Wisconsin and Mattoon, Illinois

Sales and Engineering Representatives in All Principal Cities



"YAC" Air Conditioners



Horizontal Unit Heaters



Cabinet Unit Heaters



Heating - Cooling Coils



"Vertiflow" Unit Heaters

The accent's on more sales...with AMPLEX SWIVELITES



At the SEARS ROEBUCK STORE in Atlanta, Ga., the recent installation of Amplex Swivelites assures *flexible* accent lighting today and for years to come.

IT'S TRUE in stores everywhere... when you highlight merchandise you boost sales! And it's just as true that in accent lighting there's nothing like Amplex Swivelites for efficiency and economy. The last word in modern design, Swivelites are made of aluminum with a permanent satin finish. Their double-ball swivel permits instant, positive positioning. Ventilated hoods give longer bulb life. And all the basic units of Amplex Swivelites are interchangeable with each other... arranging new lighting effects is quick, easy and inexpensive.

Get the whole story about Amplex Swivelites right now. Just write Amplex Corporation, Dept. D-1, 111 Water St., Brooklyn 1, N. Y.

AND HERE'S SOME MORE OF THE AMPLEX LINE

Colorbeam Reflector Lamps

Outdoor Weatherproof Lamps

"Hi-Hat" Recessed Fixtures

Reflector Spots and Floods

Hi-Bay Reflector Lamps

Street Lighting and Traffic Signal Lamps

Industrial Infra-Red Lamps

AMPLEX

Sealed-Beam Reflector Lamps, Colorbeam Lamps, Spotlites and Floodlites, Industrial Infra-Red Heat Lamps, Vibration and Rough Service Lamps, Street Lighting Lamps, Traffic Signal Lamps, Incandescent Lamps, Fluorescent Tubes, Display Accessories.

PRODUCTS

(*Continued from page 234*)

Emergency Lighting Unit

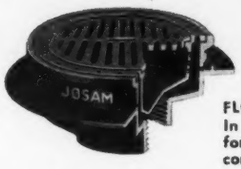
Insurance against light failures in both large and small buildings is said to be provided by the *Exide Lightguard* emergency lighting unit, which, according to the manufacturer, has already been successfully employed in a wide variety of public gathering places. The unit is approximately the size of a portable typewriter and consists of one or two 25 w sealed beam floodlights with power supplied by a thick-plate glass jar storage battery. A magnetic switch automatically connects the floodlights to the battery when the normal current is interrupted. When the unit is not in use, its battery is kept fully charged from the regular electric circuit, since it is always plugged into an outlet. When normal power is restored a relay automatically turns off the floodlights and turns on the charging unit. Lamps are adjustable in any direction and illiminate 4000 sq ft of floor area. A single unit will furnish light continuously up to 6 hrs and two-lamp units will operate up to 2¼ hrs, when the light output will be approximately 70 per cent of peak. Electric Storage Battery Co., 42 So. 15th St., Philadelphia 2, Pa.

Drafting Table

Adjustable for height as well as for angle, a new all-steel base *Stay 'Ble* drafting table is reported by the manufacturer to be low in price as well as immediately available. The table features a leg base area of 25½ by 42 in., with height adjustable from 33 to 47 in. The all-steel base is finished in machine enamel. The board is of sugar pine, with tongue and groove joints. Its overall size is 42 by 72 by 1 in., and it has a tilting range of from 0 to 50 deg. It is reinforced by steel angle supports and has a natural finish with a protective coating. Other standard size boards are available with the base, which has a quickly adjustable foot rest. The unit is equipped with a leveling device. Attachable reference table and drawers optional. Emrick, Inc., 1724 Clinton Ave., Kalamazoo, Mich.

(*Continued on page 238*)

THERE ARE NO



FLOOR DRAINS
In a wide range of types for every floor drainage condition.



ROOF DRAINS
To provide continuous drainage in spite of accumulated debris on roof.

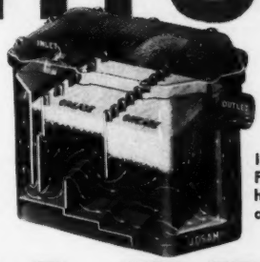


BACKWATER SEWER VALVES
To prevent sewer contents from backing up into basement floors.

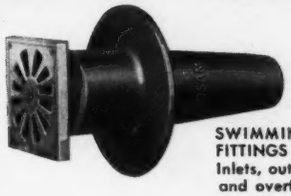
SUBSTITUTES FOR



SHOCK ABSORBERS
To eliminate water hammer in pipe lines.



INTERCEPTORS
For grease, oil, gasoline, hair, plaster, sediment, and paraffin.



SWIMMING POOL FITTINGS
Inlets, outlets, gutters, and overflows

JOSAM PRODUCTS

only in Josam Products can you get Josam Quality!

The way to secure the best results in the quickest time on any job is to use the *best* products. By this method you secure known quality and positive dependability... you avoid grief both before and after installation.

In plumbing drainage products, you get the best when you use Josam because Josam is the originator and pioneer of hundreds of the products which are accepted as the standard of the industry today. In the Josam line there is a plumbing drainage product for every purpose, proved by almost 40 years experience to be easier-to-install, better-in-construction, superior-in-performance.

When the problem is drainage why take the slightest chance, when it costs you no more to use the best—Josam! Send coupon below for further information.



Typical of Josam leadership is the method pioneered by Josam whereby a great variety of adjustable strainers for various purposes are interchangeable to fit Josam floor drain bodies.

JOSAM MANUFACTURING COMPANY
World's Largest Manufacturer of Plumbing Drainage Products

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Please send free literature on the following products:

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- ☐ Leveleze Floor Drains
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- ☐ Swimming Pool Fittings
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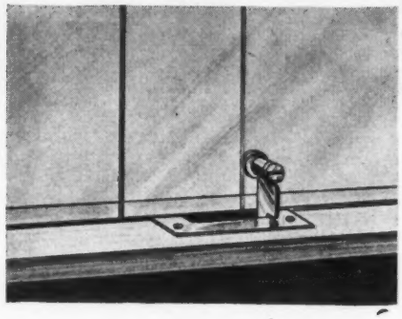
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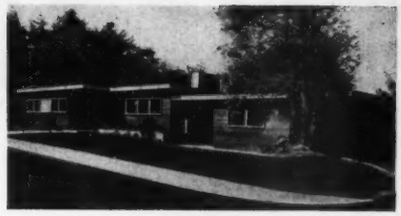
CITY and STATE _____

PRODUCTS
(*Continued from page 236*)

Sashless Window

Consisting solely of a redwood frame and a pull latch which locks the window in closed or partly open position, the *Pierson 20–20 Window* is said to eliminate sashes, putty and weights and to provide, in effect, an all-glass window. Into the redwood frame, which comes in seven fabricated pieces, ready to nail together directly into the wall framing between studs, fit two panes of standard 26 by 36 in., 3/16 in. crystal glass; one fixed, one sliding pane. A 3/8 in. hole is bored in one of the panes to accommodate the lock. The glass is not furnished with the window but can be obtained from any glazier. The panes lift out for easy cleaning, and the windows can be used singly or grouped like window-walls. They are reported to provide easy furniture arrangement with maximum light and privacy. At present the frame is available only in 4 by 3 ft size. Ernest Pierson Co., 4100 Broadway, Eureka, Calif.





Above: simple lock holds window in place. Right: model home employs sashless window

Elevator Sill

Alexander elevator sills to fit almost all types of freight elevators currently in use now feature two electric interlocks. The sill is said to operate as an integral part of the elevator and to give protection on every floor where the elevator stops. When it is down, the elevator is locked and can move only when the sill has been closed. In this latter position the sill is upright and acts as a protective gate to keep trucks and carts from rolling off the elevator while it is in motion. Alexander Sill Co., 970 Milwaukee Ave., Chicago 22, Ill.

Plywood Structural Beams

In conjunction with the military shelter program, bonded plywood structural "I" beams have recently been developed. These are said to have the advantage over other types of wood members, that each sheet can be as carefully inspected as the test specimen used to determine the member's basic strength. Since grade adjustment of this measurement is not necessary in calculating loading capacity, more precision is afforded in such calculation. From this, in turn, similar "I" beam units can be devised to meet strength-weight ratios required in larger and heavier construction. The manufacturer cites as indicative of such application the employment of 1 in. by 10 ft molded plywood angle units in the Unicel Freight car. Keller Products Inc., Manchester, N. H.

(*Continued on page 240*)



Latest Giant Store, Washington, D. C. Installation by Griffith Consumers Co., Washington, D. C.

Because customer-comfort is an important ingredient in the shopping service offered by the Giant chain of super markets—this is the *tenth Giant Store* equipped with dependable, efficient, economical Marlo Air Conditioning equipment.

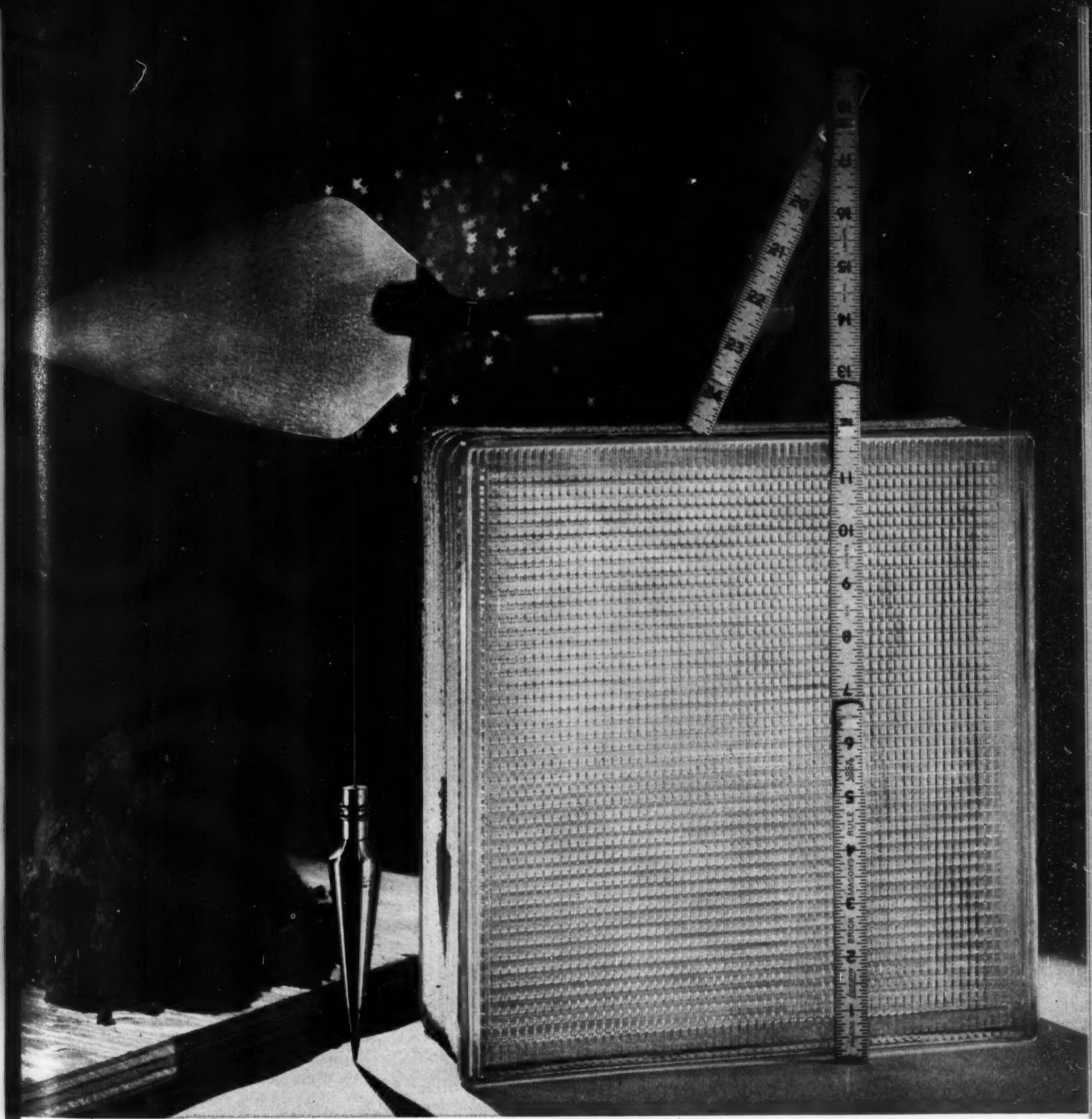
- **Air Conditioning Units.** (Three.) Complete facilities (cooling, heating, ventilating) for year-round shopping comfort.
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AIR CONDITIONING UNITS • MULTI-ZONE UNITS • BLAST HEATING & COOLING COILS



Announcing the FIRST 12-INCH light-directing glass block!

THE new Insulux No. 463 Glass Block has all the features of the smaller 8" No. 363.

- . . . same light-directing and light-controlling qualities
- . . . same face coating from which even hardest, dried-on mortar rubs off easily and quickly. Virtually eliminates post-construction cleaning expense
- . . . same 3⅞" thickness
- . . . same identifying gold stripe that gives instant identification of top inside of block

In addition, panels of the larger 12" x 12" size may be laid faster . . . The larger size gives architects freedom to create an entirely new scale in panels, and the new 12" size may be combined with the 8" size in the same panel.

Important as all these features are, they're only incidental when compared to the lifelong advantages an Insulux Fenestration System installed on Daylight Engineering principles gives to any building. Supplies of the new Insulux Glass Block® and all of the materials needed for fast installation are noncritical and immediately available.

The knowledge and experience of a Daylight Engineer is at your service. Just write Insulux, Dept. A.R.-1, Box 1035, Toledo 1, Ohio.

INSULUX FENESTRATION SYSTEMS

—by the leaders of Daylight Engineering

INSULUX GLASS BLOCK

PRODUCTS
(*Continued from page 238*)

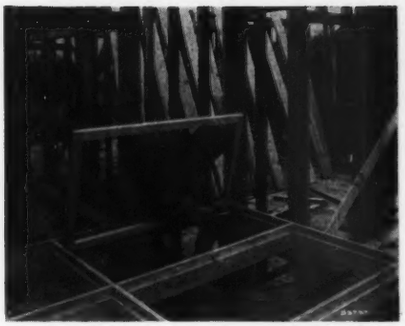
Panel Window System

Flexibility in design, economy in material and labor, plus greater insulation comfort in small homes are all said to be afforded by a newly developed system of panel window construction employing *Thermopane*. The system is based on simple frames of rabbeted 2 by 6's which are assembled on the job. Nine standard frames, when used either individually or in combination, are reported to fill every window need throughout an entire house from a single window in a bathroom to a large window wall for a living room. Fixed panels may be alternated with movable ventilator panels of either wood or metal. These ventilators may be installed wherever desired in the frames and in whatever number wanted, so that a choice of ventilation of from zero to 100 per cent of the window area is afforded. Only two sizes of Thermopane are used in the system — 45½ by 25½ in. for fixed units and 42½ by 22½ in. for ventilator panels. This, together with the standard frame, is said to effect economy in both material and labor.

In some areas these frames can be obtained prefabricated, in others they can be obtained from local millwork suppliers or can be cut and rabbeted by builders on the site. The frames are reported to be easily and quickly assembled by any carpenter. Screens, hardware and weatherstripping have been designed especially for the system and, in most cases, can be shipped in a complete package together with the ventilator units. Libbey-Owens-Ford Glass Company, Toledo 3, Ohio.

Below: units grouped to form window wall





Above: ventilator unit being installed in frame; can be placed where desired

Flat Finish Paint

A flat finish for exterior siding and woodwork, *Ranch House Hues* are said to give the effect of stain in pastel tones with considerable hiding power. The finish can be brushed or sprayed and is available in yellow, buff, grey and red shades, including three different greys and two red tones. Samuel Cabot, Inc., 29 Oliver Bldg., Boston 9, Mass.

(*Continued on page 242*)



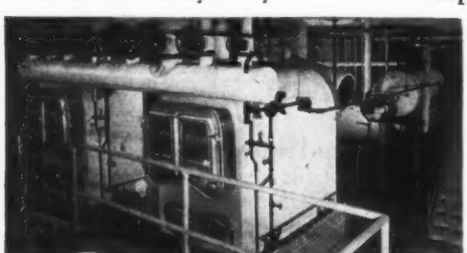
FOUNTAINDALE SCHOOL
RHEES BURKETT, Architect
WALTON H. REDMILE, Engineer
MARSHALL'S PLBG. & HTG. CO., Contractor

HEATED BY KEWANEE STEEL BOILERS

• *Orchids to the School Board* of Washington County, Maryland and to the Architects, Engineers and Contractors who planned and built the Fountaindale and Boonsboro Schools!! For these new structures incorporate entirely new ideas in school planning, which make them outstanding examples of school design and construction in the country today.

This is not surprising when it is realized that members of the school board, the architects and engineers travelled throughout America to study and adopt features of outstanding new schools before plans were completed.

The selection of Kewanee Boilers for both these structures thus becomes especially significant.



Shown at left: Modern Boiler Room of Boonsboro School with its pair of stoker fired Kewanees.

• • • •

Smaller in size the Fountaindale School is equipped with one oil-fired boiler, also a Kewanee.

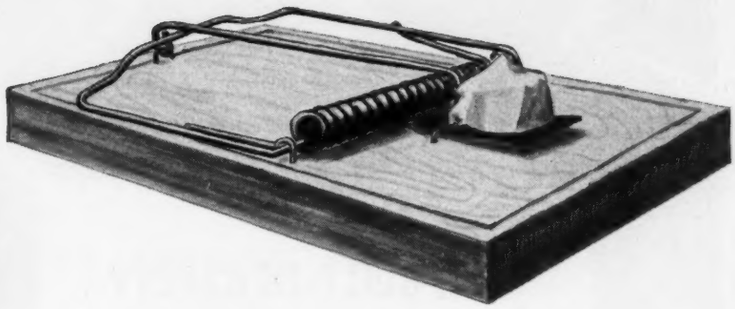
KEWANEE BOILER CORPORATION
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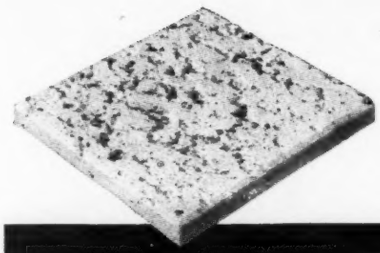
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TRAP NOISE





with beautiful, light, fireproof Gold Bond Travacoustic tile!



INSTALLATION—Extremely light in weight, Gold Bond Travacoustic is easily applied with acoustical cement or a mechanical suspension system.

HERE'S the modern and efficient way to kill sound and still gain the beautiful decorative effects of travertine stone. Specify Gold Bond Travacoustic fireproof mineral tile! (See chart below for noise reduction coefficients.) Its non-glare, white, factory finish gives high light reflection... can be painted with brush or spray gun.

When planning your next job call in your local Gold Bond Acoustical Applicator, listed in the phone directory under "Acoustical Contractors". He's a factory-trained, experienced engineer. At no obligation, he will be glad to work out acoustical construction or specification details with you. For additional information see our section in Sweet's or write our Acoustical Division in Buffalo.

GOLD BOND TRAVACOUSTIC SOUND ABSORPTION DATA

Thickness	*Mounting (Described Below)*	*Sound Absorption Coefficients*						*Noise Reduction Coefficient*
		128	256	512	1024	2048	4096	
11/16"	1	.13	.20	.68	.89	.81	.77	.65
13/16"	1	.17	.27	.80	.88	.83	.91	.70
13/16"	7	.57	.50	.58	.75	.91	.83	.70

Types of mountings: 1 — Cemented to gypsum board or plaster surface.
7 — Mechanically mounted on metal supports.

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THAT WON'T WEAR OUT...

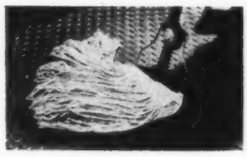
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GRIPS WITHOUT A SLIP. Engineered design of SUPER-DIAMOND puts 40 traction points in every footstep. All-over pattern gives foot-safety from every angle.

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Send for new SUPER-DIAMOND folder S-54. No obligation.



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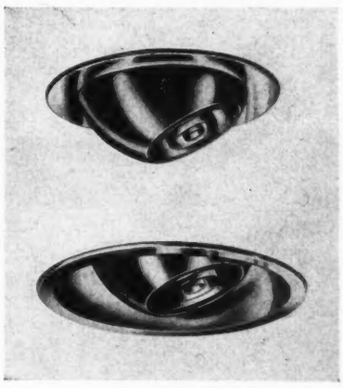
OTHER PRODUCTS: A.W. ALGRIP ABRASIVE Floor Plate • PERMACLAD Stainless Clad Steel Plates • Sheets • Strip • (Alloy and Special Grades)

PRODUCTS

(*Continued from page 240*)

Adjustable Spotlights

A series of universally-adjustable spotlights called *Controlite* has been designed primarily for dramatic-effect lighting in display windows, showrooms, backbars, theatres, etc. According to the manufacturer, units of this type have never before been available in the popular price range. The horizontal rotation



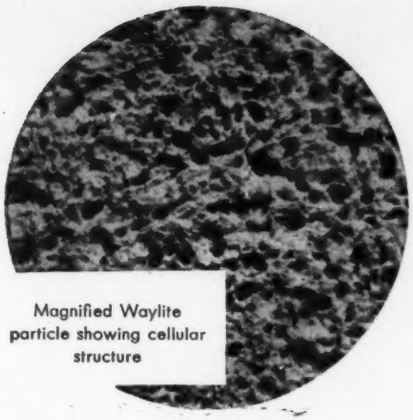
Two of 4 models of universally adjustable spotlight for dramatic-effect lighting

of the friction operated units is 360 deg and the tilt is 42 deg from vertical. The 20 ga steel housing is finished in satin chrome, and the units employ R-40 reflector lamps. Four models are available: semi-flush; semi-flush with louvers; completely recessed; and completely flush with louvers. Marvin Mfg. Co., 3071 E. 12th St., Los Angeles 23, Calif.

Portable Electric Heater

Featuring a safety switch which turns off instantly if the heater is overturned, the *Glomaster* infrared heater also incorporates a heating element which it is claimed will not burn out and is not affected by splashed water. Maximum utility of all radiant heat is reportedly assured by a reflector designed to distribute heat waves evenly, eliminating "hot spots." The heater also employs asbestos insulated wiring, an indestructible neoprene plug, non-corrosive ter-

(*Continued on page 244*)

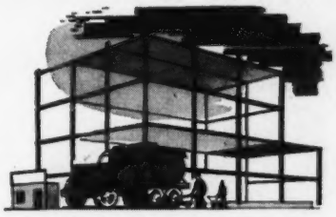


Magnified Waylite particle showing cellular structure

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1,000,000 CUBIC YARDS OF WAYLITE AGGREGATE

FOR THE CONSTRUCTION INDUSTRY IN 1952



Lightweight Waylite concrete saves structural steel



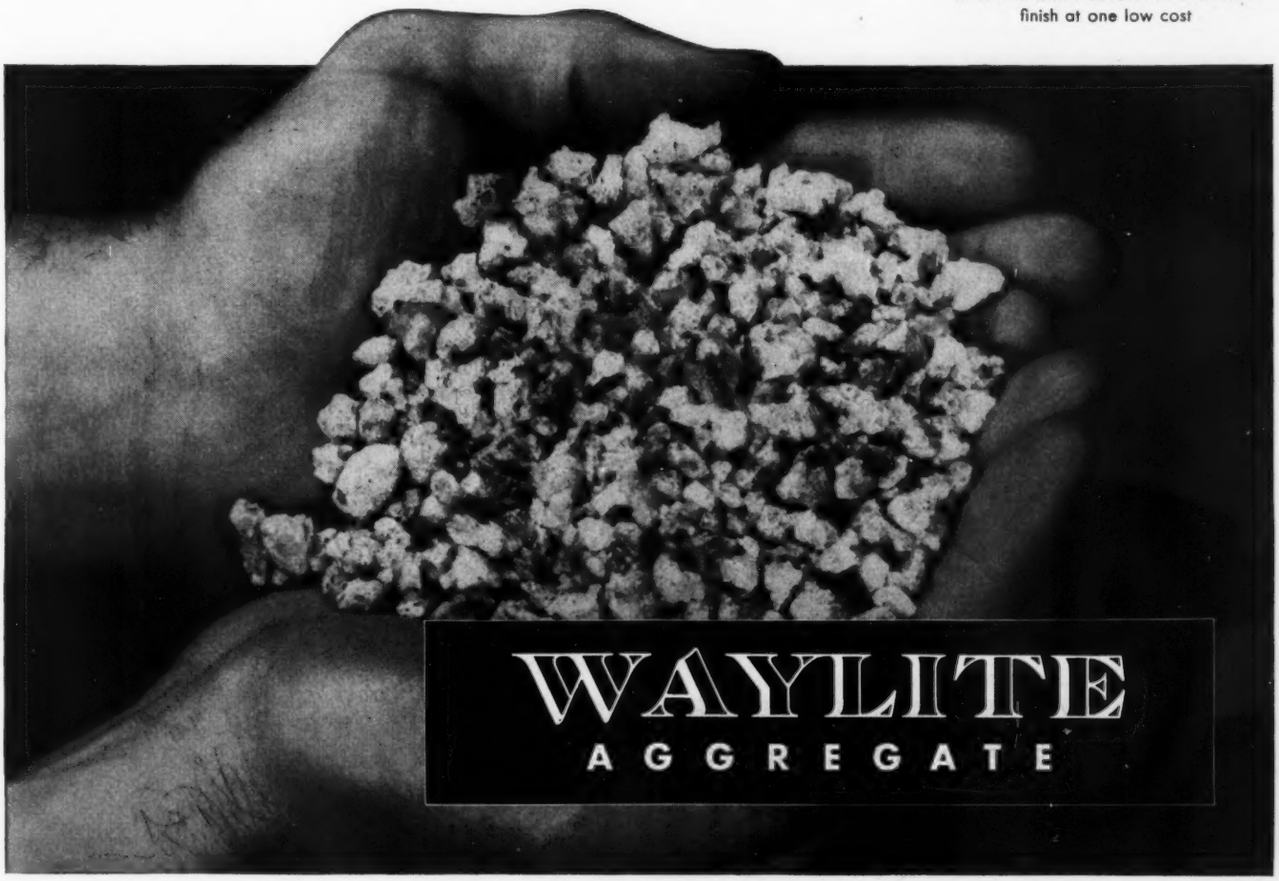
Waylite provides an insulative structural wall with a decorative acoustical finish at one low cost

WITH THE COMPLETION of an additional production unit, The Waylite Company now has production capacity in excess of 1,000,000 cubic yards of lightweight concrete aggregate per year. In the past two years over 1,700,000 cubic yards of Waylite aggregate has been furnished to the construction industry.

A Waylite processing plant in operation is in itself a sight to see. Molten slag at 2000° F to 2500° F temperatures as it comes from the blast furnaces is poured into a giant mixer, agitated in saturated steam and the inherent gases create air cells which are completely sealed.

Crushed and accurately sized, this is Waylite—the lightweight aggregate with plus values—that imparts desirable new qualities in modern structures.

Waylite aggregate is backed up with twenty years of "know how" and used in many types of structures. Our 16-page catalog in Sweet's or sent free on request. Address the Waylite Co., 105 W. Madison St., Chicago or Box 30, Bethlehem, Pa.



Cool comfort at low cost

Homes with Hunter Attic Fans are popular!



The compact Hunter Package Fan is easily installed in any attic.



Attractive new ceiling shutter opens and closes automatically.

■ Home owners will tell you a Hunter Attic Fan is a comfort feature they "couldn't do without." Throughout the nation many leading architects are recommending this low-cost home cooling to their clients. It's a plus value that makes any home more livable and a better investment.

Cools the entire house—The new Hunter Attic Fan is a complete home-cooling system. On hot summer days and nights it drives out hot, humid air . . . pulls in fresh, cool breezes. Cools the entire house, not just one or two rooms.

Easy to install—Delivered on the job as a compact unit, complete with ceiling shutter and modern metal trim, the Hunter Package Attic Fan is quickly installed in ceiling opening. No suction box to build; no accessories needed. Requires only 17" attic clearance, fits any standard hallway.

Performance guaranteed — Quiet, trouble-free operation is assured by Hunter's 65-year experience in manufacturing fans. Hunter Attic Fans are available in capacities to fit any home and any climate. Fan guaranteed 5 years; motor and shutter, 1 year.

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Hunter SINCE 1886 **HUNTER** Attic Fans

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PRODUCTS

(*Continued from page 242*)

minals and alloy steel case finished both inside and out so no surfaces are left which might rust. The unit is 19 in. high, 12 in. wide and weighs 12 lb. Rated at 1000 w, it is said to use no more electricity than an iron, and it can be plugged into an y 110–115 v outlet. Glo-Ray Heater Co., Pomona, Calif.

Expanded Metal

Two unusual uses for expanded metal — sheet steel that has been slit and stretched into a diamond pattern — were employed recently in a new Peoria, Illinois office building for the Toledo, Peoria and Western Railroad, designed by architect Carter E. Hewitt. Panels of the metal were supported on a metal framework to form a ceiling which provides diffusion from fluorescent fixtures without serious light loss and at the same time covers ductwork and beams economically. The panels were also put to another use both decorative and functional, as stairwell guards in the building. The panels are manufactured by Wheeling Corrugating Co., Wheeling, W. Va.



Expanded metal ceiling provides light diffusion, covers ductwork and beams

Packaged Industrial Doors

Automatic industrial doors that open or close in 3½ sec now can be obtained ready for installation by any maintenance crew without special fitting or alteration of doors or doorways. The

(*Continued on page 246*)

Another Fine Lighting Job

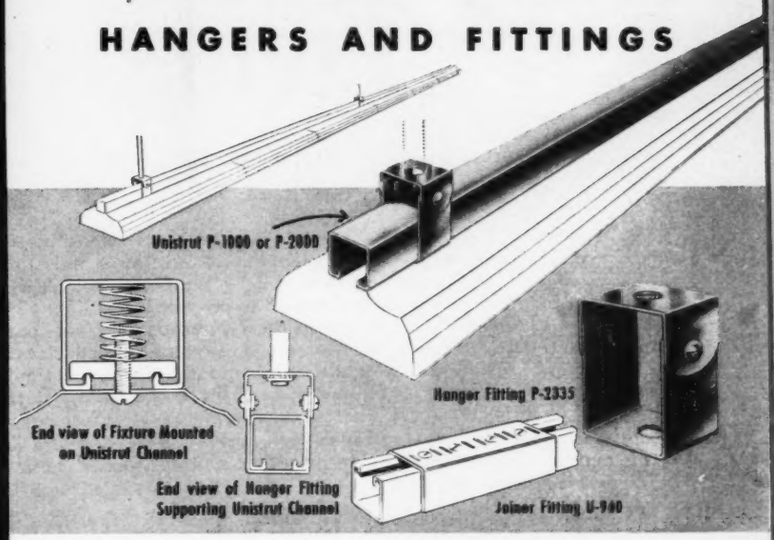
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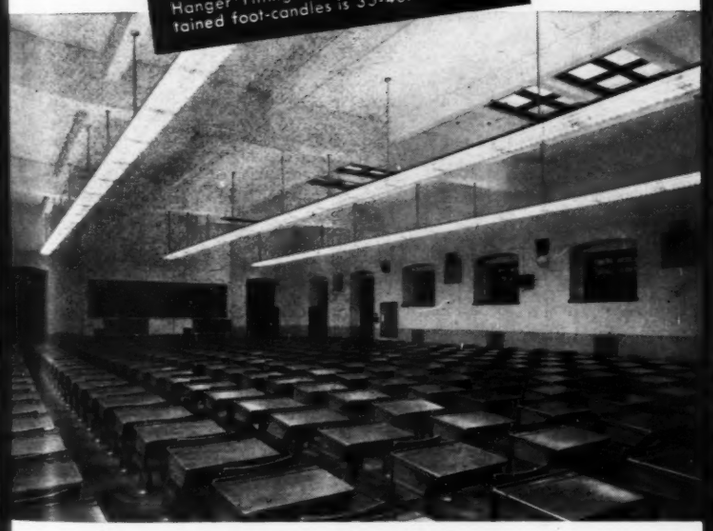
HANGERS AND FITTINGS



BEFORE VIEW of study hall of Jackson High School, Jackson, Michigan. Approximately 49 ft. by 83 ft. with 20 ft. ceiling. Twenty-one 16 in. opal glassware chain suspension fixtures with 200 watt lamps. Fixtures suspended 10 ft. above floor. Average illumination was 5 to 8 foot-candles.



AFTER VIEW of same study hall showing 4-lamp 40-watt fluorescent fixtures in continuous rows completely supported with Unistrut P-2000 channel and suspended 13 ft. above floor with ½ in. conduit stems, canopies and Unistrut Hanger Fitting P-2335. Average maintained foot-candles is 35-40.



Lighting recommendations by and photographs courtesy of Consumers Power Company, Jackson, Michigan.

THE COMPLETELY MODERN METHOD of Hanging Fluorescent Fixtures gives you these Exclusive Advantages:

FEWER HANGER STEMS AND CANOPIES UNISTRUT'S great channel strength permits wider spacing of stems—up to 15 feet apart if desired—for better appearing installation and obvious savings.

PERFECT ALIGNMENT—UNISTRUT channel is rigid, strong and perfectly straight—gives you true alignment of fixtures. Cleaning, re-lamping, or other servicing cannot disturb this alignment.

COMPLETELY FLEXIBLE—Stems or rods can be installed at any point along UNISTRUT channel. Overcomes possible ceiling irregularities or obstructions. Ideal for continuous runs or intermittent spacing of fixtures.

FASTER, EASIER INSTALLATION—UNISTRUT channel and fittings are attached to fixtures quickly and easily at normal working height or at suspension level. No drilling, no welding, 100% adjustable.

ADDED SAFETY—UNISTRUT assures the utmost safety of installation because an entire row of fixtures becomes a single integrated unit—added safety obtained by no other method.

SAVES TIME AND MONEY—Reduces number of canopy and stem sets used, lowers wiring and rewiring costs, eliminates drilling and welding costs, saves planning and installation time.

UNISTRUT APPROVED AS WIREWAY—UNISTRUT channel has been approved as a wireway by the department of electrical inspection in Chicago and 20 major cities throughout the country . . . additional proof of the versatility and all around practical usefulness of UNISTRUT.

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Landscape for Living

by GARRETT ECKBO

DRAWING from 15 years of experience as gardener, landscape architect, and teacher, Garrett Eckbo has written a book that practitioners and students will want both for reference and for enjoyable reading — a refreshing book whose enthusiasm for outdoor planning is contagious enough to provide a real lift.

Planned with insight and craftsmanship, *Landscape for Living* outlines the major problems in the field of landscape design and offers specific solutions.

This ground-breaking text establishes a foundation for understanding landscapes: traces its history; explains its functions; analyses developments; details principles of design and planning.

Entire sections are devoted to such basic and practical considerations as *materials, plants and planting, structural elements, site conditions, parks, gardens, public buildings, group housing.*

PRACTICE AND THEORY. Garrett Eckbo is a teacher (University of Southern California) and an active practitioner of landscape design (member of the firm of Eckbo, Royston and Williams). His book reflects his mastery of both theory and practice; and both, as the author points out, are essential to the highest standard of professional work.

The fundamental thesis of the book is that landscape design is a problem in the unified organization of specific units of outdoor space. This organization, when done well, is more than a collection of elements, features, pictures or plants; each unit can develop an over-all integrated character. Unfortunately, however, much present day landscaping — in the words of the author — is "hack work, mechanical in form and sterile in content . . . superficial, sensational, tricky."

Material Presented Graphically

Landscape For Living devotes page after page to photographs, diagrams and textual analysis of actual gardens, parks and public buildings. Problems are explained and solutions given.

Seldom has any subject, particularly landscaping, been treated as comprehensively in a single volume. No detail is too small, no concept too large, for Mr. Eckbo's instructive and engrossing book. It is almost certainly destined to be accepted as the definitive work on landscaping.

400 illustrations, including photographs, site plans, drawings, sketches; fully indexed; bibliography. Size 8 x 10¾; 288 pages, heavy coated stock; stiff cloth binding.

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To obtain your own copy of *Landscape For Living*, simply fill out and mail the coupon below. Enclose your check or money-order for $10.00, and the volume will be sent to you postage-paid; or, if you prefer, we'll bill you later. In either event, be sure to mail the coupon today.

Book Department, Architectural Record
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☐ *Enclose $10 ($10.20 for N. Y. C. delivery) and the book will be sent postpaid*

PRODUCTS

(*Continued from page 244*)

mechanical operating equipment is part of each packaged set, and installation is described as a matter of an hour or two. Called *Prest-O-Matic*, the doors are available in foldback and sliding models, equipped with approach controls. Ball-bearing hinges and life-time greased bearings are employed throughout. Each set is shipped in two crates, ready for installation. Clark Door Co., 511 Hunterdon St., Newark 8, N. J.

Hollow-Core Flush Door

Chief feature of a new *Hasko Mobile* flush door is a "flex core" of pressed fibre cord rails said to provide resiliency and flexibility for an unusually high degree of resistance to denting from heavy impacts or damage from warping, thus helping to insure both beauty and durability. This adaption of the hollow-



Hollow-core flush door features core of pressed fibre cord rails

core principle is said to meet the demand for high quality at low cost in a flush door. Face veneers are gum or cativo, as well as other selected hardwoods, and the doors are available on a selected or unselected basis, suitable for stain or paint finishes. Haskelite Mfg. Corp., 701 Ann St., N.W., Grand Rapids, Mich.

(*Continued on page 248*)

Trinity White

PORTLAND CEMENT



From a close-up view...or seen as far as the eye can reach, Trinity's shimmering white projects the beauty and distinction of good design.

Use Trinity White for architectural concrete units, terrazzo, stucco and cement paint. It meets Federal and ASTM specifications. It is a true portland cement. Trinity Division, General Portland Cement Co., 111 W. Monroe St., Chicago; Republic Bank Bldg., Dallas; 816 W. 5th St., Los Angeles; 305 Morgan St., Tampa; Volunteer Building, Chattanooga.

as white



as snow

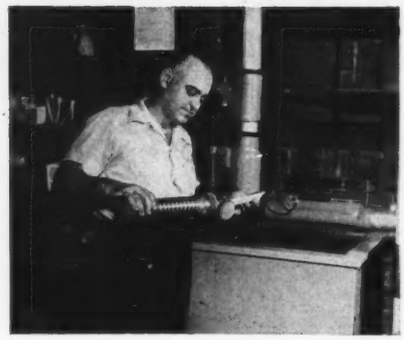
the whitest white cement... PLAIN OR WATERPROOFED

PRODUCTS

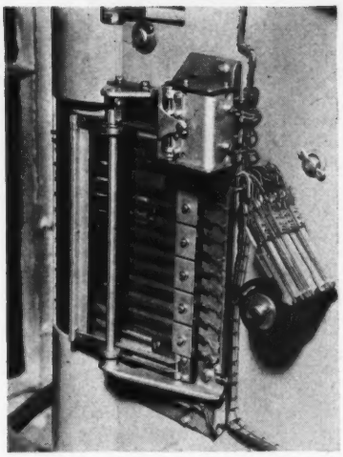
(*Continued from page 246*)

Automatic Pneumatic Tubes

A completely automatic *M&G Pneumatic Tube System* which employs principles of the dial telephone and eliminates the necessity for a central dispatcher (first reported in *Products for Better Building*, p. 194, March, 1951) has, according to the U. S. distributor, been proved to effect both installation and personnel cost savings as well as to increase efficiency of operation. Utilizing a loop system of tube lines radiating from a central point and each serving a number of stations, the automatic installation is said to require less than half the tubing necessary for an ordinary manual system. The employment of less tubing also permits a reduction in the amount of floor space required at the central switching station, an item said to be often costlier than the tubing itself. Since full-time dispatchers are not needed, time and labor savings are also effected by the automatic installation. Flexibility of the system permits stations to be added, subtracted or reinstalled with ease, it is stated. The system also employs smaller blowers than those used in manual operations, with an output of 50% or less than the latter, and this is reported to result in decreased power consumption and in reduced noise. International Standard Trading Corp., subsidiary, International Telephone & Telegraph Corp., 67 Broad St., New York, N. Y.



Tube is loaded, dials set for station



"Fingers" read dial settings, transmit electric pulses to relay panel which dispatches tubes to desired station

Rubberized Paint

Texolite Duraval rubberized paint, combining a synthetic latex ingredient with special resin chemicals, is said by the manufacturer to produce a velvet-like finish of great durability. The paint requires no primers or sealers over most surfaces, and is also reported to dry quickly, provide good coverage and to be easily cleaned. It is available in 12 standard and 5 custom ready-mixed colors and affords a much wider range of colors through simple intermixes with standard units of measure. United States Gypsum Co., 300 W. Adams St., Chicago, Ill.

(*Continued on page 250*)



Foster's Flowers, Oklahoma City, Okla.
Architects—Vahlberg & Vahlberg
General Contractor—Frederickson-Parkes
Acoustical Contractor—Harold C. Parker & Co.
Acoustical Tile—Simpson Acoustical Tile mfr'd by Simpson Logging Co., installed on Securitee Limited System



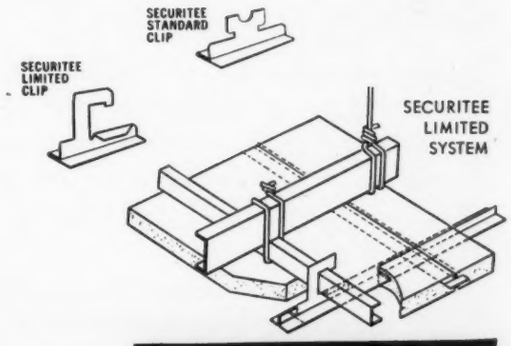
Quality

THE COMPONENT PARTS of any Securitee System*, mechanical attachments for erecting acoustical tile, are made from the finest quality materials obtainable.

This rigid policing of suppliers, combined with high standards in the manufacture of the finished product make Securitee the outstanding suspension system on the market today.

Quality in appearance and durability in construction are two vitally important factors to any architect, designer or contractor—you get both with Securitee Systems.

See Sweet's Architectural File or write direct for complete technical data



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*T.M. Reg. U.S. Pat. Off.

West Coast Distributor **FREY & HAERTEL, Inc.,** 125 Barneveld Ave., San Francisco 24, Calif.

PRODUCTS
(*Continued from page 248*)

New Rugs and Carpets

Now available on the market are several new styles of fibre rugs and a new custom-made carpeting. Featuring a variety of colors and interesting textures, the fibre rugs are moderately priced and are said to be easily cleaned and long wearing. *Rush-Wai* is a combination of four shades of beige and is patterned after rush squares. *Waitrend*



Inexpensive fibre rug has tweedy texture

is softly textured in either two-toned grey or brown with flecks of brighter color inbedded, and is made of spun rayon with fibre filler. *Scots-Wai* is available in a variety of tweedy appearances in green, rose, grey, cedar, beige or black and white. All of the fibre rugs are reversible. The new carpeting, *Purl-Wai*, combines Dupont's Fibre E carpet rayon with cotton in a tightly twisted low-pile texture. Recommended for wall to wall installation, it needs no binding and comes in 22 decorative colors. Waite Carpet Company, 295 Fifth Avenue, New York 16, N. Y.

Easily Decontaminated Vinyl Paint

Corrosite, a non-porous vinyl base paint is reported to have been demonstrated by recent laboratory tests to have outstanding decontamination and corrosion resistance properties when used on floors, walls, ceilings and equipment surfaces of laboratories handling radioactive materials. The tests, held at Oak Ridge National Laboratory, are said to have indicated that the new type paint is a good surface covering to help overcome the laboratory problems caused by dangerous radioactive isotopes. The product rated extremely high in ability to be readily decontaminated by reagents, proved to have low susceptibility to radioactive contamination, and scored "excellent" in 4 of 5 corrosion resistance tests, the manufacturer reports. On the basis of the test record, the paint was adjudged acceptable for general application in radiochemical facilities. Corrosite Corporation, Chrysler Bldg., New York, N. Y.

Adhesive Disks

A sensitive pressure material said to adhere on both sides to any surface including metal, glass and wood, eliminating the need for tacks and tape, *Stik-tack* is now available in a new industrial pack of 240 small, transparent disks. The product is reported to do away with damage to woodwork and plaster resulting from tack holes, and is also claimed to answer the problem of attaching display materials to glass, tile or metal. It is also recommended for architects and engineers, for use on drafting tables. It is said to be especially suited for such use, since it will not mark or tear drafting or tracing paper and permits the free sliding of a rule over the paper. Thompson-Winchester Co., 201 State St., Boston 9, Mass.

(*Continued on page 252*)

Complete

YOUR ROOFING JOBS WITH

FOLLANSBEE TERNE METAL

Follansbee Seamless Terne Metal is the ideal weathersealing material for built-up, composition, wood, asphalt or asbestos shingle, slate or tile roofs. Tough, durable and malleable, Terne Metal should be used for copings, eaves troughs, flashings, gravel stops, gutters and valleys.

Properly installed and maintained, Terne Metal will last as long—or longer—than any roofing material with which it is used. Terne can be installed easily and quickly. Write us for additional information.

Remember, with Follansbee Terne Metal, no provision need be made for expansion and contraction.



Terne step flashing applied to chimney on slate roof.



Terne Metal valley applied to asphalt shingle roof.



Built-in Terne Metal gutter on home with shingle roof.



Terne Metal gravel stop used on built-up roof.



Terne Metal hanging gutter on shingle roof.

FOLLANSBEE STEEL CORPORATION

GENERAL OFFICES, PITTSBURGH 30, PA.

COLD ROLLED STRIP **SEAMLESS TERNE ROLL ROOFING**
POLISHED BLUE SHEETS AND COILS

Sales Offices—New York, Philadelphia, Rochester, Cleveland, Detroit, Milwaukee. *Sales Agents* — Chicago, Indianapolis, Kansas City, Nashville, Los Angeles, San Francisco, Seattle; Toronto and Montreal, Canada.
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BUILT

To Serve In The Finest

BUILDINGS

This smartly designed Nibroc towel cabinet is a streamlined beauty! It is of sparkling white enamel . . . holds up to *50%* more towels than ordinary cabinets . . . requires less servicing . . . can be mounted to practically any wall surface without drilling.

NIBROC TOWELS are the world's largest-selling towels for industrial and institutional use. They are soft, lint-free, highly absorbent, and unusually strong when wet. Economical, too, because fewer are used.

Singlefold or Multifold, white or buff, to meet every washroom requirement.

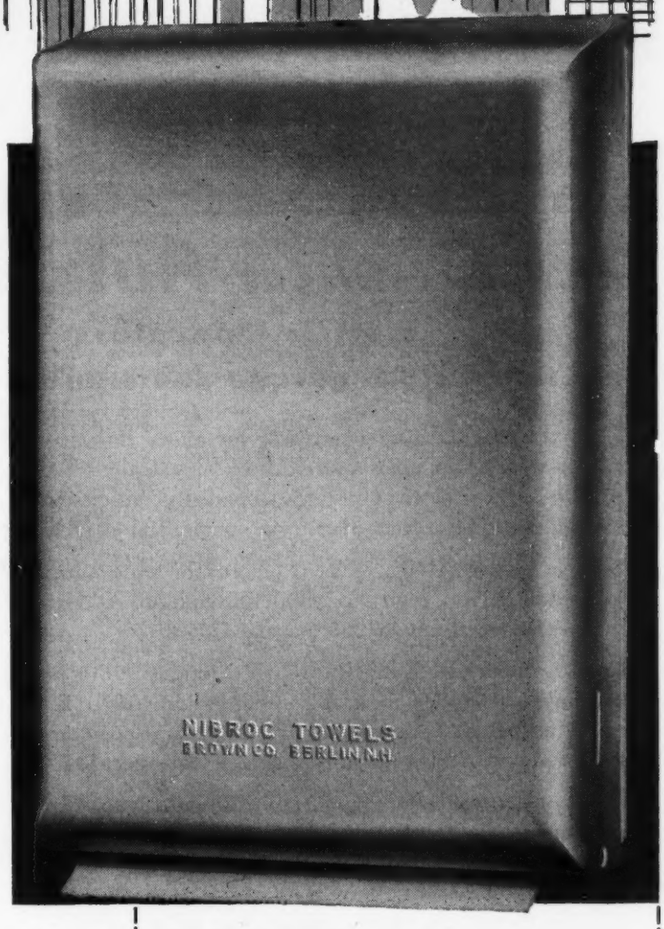
Nationwide Distribution assures fast, flexible service, coast to coast.

A Dependable Supply is available year in and year out because of one-company control from forest to finished towel.

For Smartness, Sanitation, Health Protection

SPECIFY *NIBROC* CABINETS

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SOLKA & CELLATE PULPS • SOLKA-FLOC • NIBROC PAPERS • NIBROC TOWELS • NIBROC KOWTOWLS • BERMICO SEWER PIPE, CONDUIT & CORES • ONCO INSOLES • CHEMICALS

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150 Causeway Street, Boston 14, Mass.

Please send me data on Nibroc cabinets and Nibroc towels.

*Name*_____

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"Best operators in the business!"





RICHARDS-WILCOX AuT-o-DoR®

Electric Operators

open and close garage doors automatically

Here you see the perfect answer for every home-owner who wants garage doors that open and close automatically—the R-W No. 1251 AuT-o-DoR Electric Operator, especially designed for opening and closing sectional or one-piece type residential overhead garage doors.

Easy to Install—R-W No. 1251 Operators come completely assembled in a single carton, ready to install and hook to AC current. Especially recommended for R-W 999 Garage Doors.

Easy to Service—Long life self-lubricating oilite bearings are used throughout. Roller chain is completely enclosed. Tension of chain is easily adjusted. V-belt drive has automatic adjustment. No special tools required to service any parts in this operator.

Choice of Three Controls—Three different types of controls are available, as shown above. Each type functions smoothly and efficiently. Send for catalog A-87 with detailed information about R-W No. 1251 AuT-o-DoR Electric Operators—write our nearest office today.

1880-1952

OVER 72 YEARS

Richards-Wilcox Mfg. Co.

"A HANGER FOR ANY DOOR THAT SLIDES"

AURORA, ILLINOIS, U.S.A. *Branches in all principal cities*

SLIDING DOOR HANGERS & TRACK • FIRE DOORS & FIXTURES • GARAGE DOORS & EQUIPMENT
INDUSTRIAL CONVEYORS & CRANES • SCHOOL WARDROBES & PARTITIONS
ELEVATOR DOOR OPERATING EQUIPMENT

PRODUCTS

(*Continued from page 250*)

Floor Level Cleanout

Designed to permit quick and easy access to drainage lines located in heavy traffic areas, the *Supremo Perfect Seal* floor level cleanout incorporates among its features a plug which forms a gas-and-watertight seal. This plug is described as constructed to assure access to drainage lines ten years after installation as when it is first installed, since the threads of the plug will not "freeze" to the body of the cleanout. The possibility of damage to either element during removal of the plug is also eliminated in



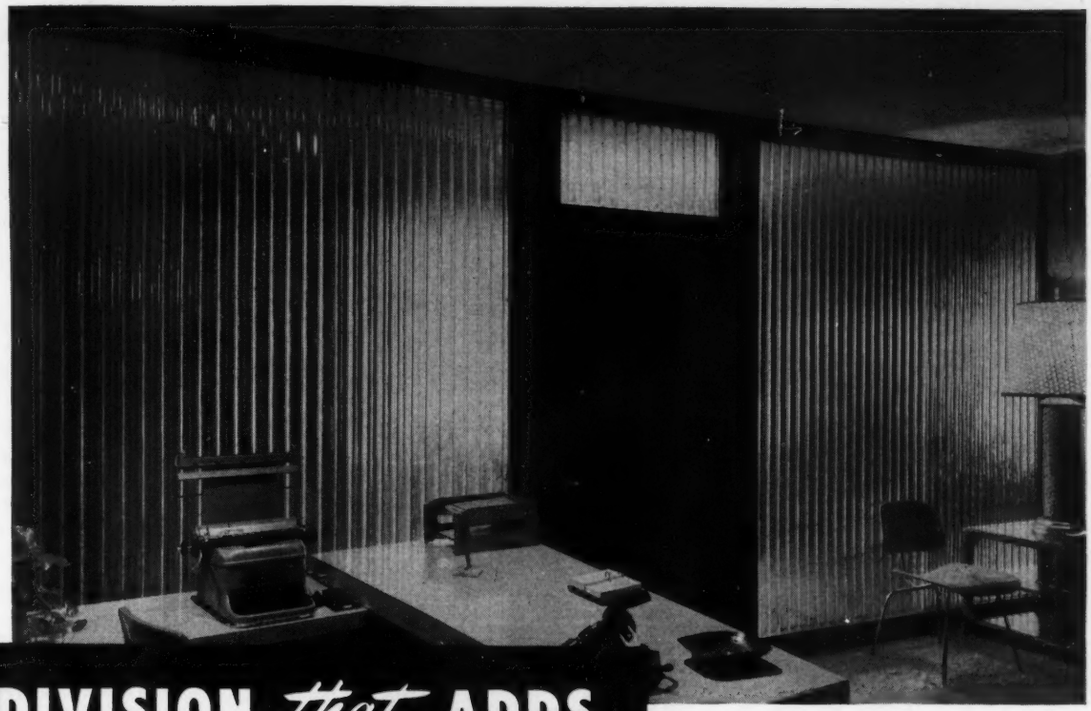
Separate housing and body of cleanout permits safe expansion and contraction

this way. The construction of the unit is said to be further unique in that the housing of the cleanout is separate from the body, thus making it possible for the pipe attached to the body to contract or expand, or the surfacing material encasing the housing to settle, without causing damage to the cleanout or pipe. The unit is available in cast iron, nickle-bronze, all-bronze, as desired. J. A. Zurn Mfg. Co., Erie, Pa.

Household Refrigerators

Two new household refrigerators have been added to the appliance line of the Frigidaire Division of General Motors. The first (DO-90P of the DeLuxe line) features a porcelain-on-steel exterior as well as an acid-resisting porcelain in-

(*Continued on page 254*)



The DIVISION *that* ADDS

Figured glass with its many advantages is fast becoming the favorite divider for business and industry. Translucent panels protect privacy but permit borrowed light to flood rooms with soft, cheerful illumination. Interesting textures strike a modern note conducive to morale and efficiency.

NO SHORTAGES

Figured glass is a non-restricted material in plentiful supply. Rhythmic glass patterns by Mississippi can be used to solve almost every partition problem.

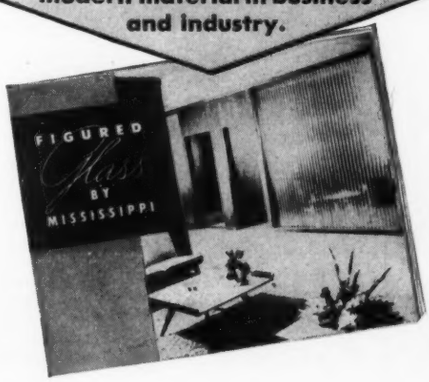
MODERN APPEARANCE

Architects everywhere prefer Figured Glass by Mississippi both for its functional applications as well as its beauty.

EASY MAINTENANCE

Simple to install, easy to clean, its use eliminates mortar joints . . . painting . . . refinishing. Figured Glass never wears out. If necessary, partitions can be removed and used again elsewhere.

Send for new, free booklet, "Figured Glass by Mississippi," containing nearly 100 actual photographs of installations of this versatile modern material in business and industry.



SEE OUR CATALOG IN SWEET'S

Rolled, Figured and Wire Glass by Mississippi is *"Visioneered"* for better daylight illumination. Available in a variety of patterns and surface finishes, all scientifically designed to distribute light to best advantage.

MISSISSIPPI GLASS CO., 88 Angelica Street, St. Louis 7, Missouri

Gentlemen: Please send me your free booklet, "Figured Glass by Mississippi."

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*City*_____ *Zone*_____ *State*_____

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WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS



Nearly 3 acres of beauty and utility in these Atlas White Terrazzo floors.

Where Terrazzo

keeps its beauty beneath a quarter-million busy feet *daily!*

Twice a day, 60,000 commuters surge through New York's Midtown Bus Terminal, world's biggest. Thousands more rush to long-distance lines . . . visit scores of shops, restaurants and service stores within the vast structure. Scuffing feet . . . scraping luggage . . . such scarring traffic would quickly wear the life and beauty out of other floors. But *these* are long-lasting Terrazzo floors . . . made with Atlas White Cement . . . tough as concrete . . . beautiful as marble.

Like the owners, designers and builders of this terminal, more and more construction professionals are choosing floors of Terrazzo made with Atlas White Cement. For, so made, color and design possibilities are practically unlimited; beauty endures year after year; and maintenance costs are low.

Owner: Port of New York Authority, N. Y. C.
Builder: Turner Construction Company, N. Y. C.
Terrazzo by Del Turco Bros., Newark, N. J.

For further information, see SWEET'S Catalog, Section 4g/Uni and 13f/Un, or write Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

AR-C-3 4



FOR BEAUTY AND UTILITY

ATLAS WHITE CEMENT

FOR TERRAZZO, PAINT, SLABS, STUCCO

"THEATRE GUILD ON THE AIR"—*Sponsored by U. S. Steel Subsidiaries, Sunday Evenings—NBC Network*

PRODUCTS

(*Continued from page 252*)

terior. With a capacity of 9 cu ft, it will store up to 46 lb of frozen food and is equipped to freeze 8 lb of ice. Among the additional features are a chill-drawer for storing ice cubes and two sliding hydrators for storing vegetables.

The second addition (Standard model SO-92) with 9.2 cu ft storage space will accommodate up to 29 lb of frozen food and freeze 8 lb of ice. Frigidaire Division, General Motors Corp., Dayton 1, Ohio.

Two-Oven Electric Range

A *Hotpoint* electric range with two ovens operated automatically by an electric timer and clock is now being produced in greater quantities to meet the consumer demand for increased oven capacity in kitchen ranges. Each oven has a broiler located at waist height and interior lights which go on when the doors are opened. Other features include a fast surface cooking unit which combines a small diameter with intense heat; two electric receptacles for small appliances; two drawers for storing cooking utensils, and a high control panel said to afford good visibility. The range is known as the Model RB 45. Hotpoint, Inc., 5600 W. Taylor St., Chicago 44, Ill.

New Rubber Tile Colors

Amtico rubber tile is now manufactured in three new marbelized colors: lilac, coral and cadet blue. These new tones bring the manufacturer's line to a total of 26 decorator colors, said to be the greatest range available in rubber tile. The choice of colors reportedly was based on consultation with interior decorators and industrial designers to determine the colors in greatest demand today. The tiles are made in $\frac{1}{8}$, $\frac{3}{16}$ and $\frac{1}{4}$ in. gauges, the lighter being recommended for home installations, the heavier for commercial and industrial use. American Biltrite Rubber Co. (formerly American Tile and Rubber Co.), Rubber Flooring Div., Trenton 2, N. J.

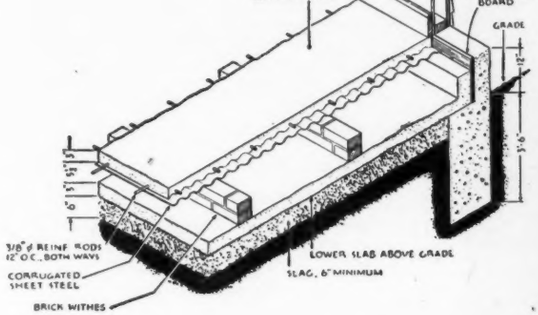
(*Continued on page 256*)



Success of Radiant Air Panel Heating

INSTALLED IN 214 KEW GARDENS HOMES MADE IT UNQUESTIONED CHOICE FOR NEW PARKVIEW DEVELOPMENT

Above, typical of 214 three-bedroom one-floor homes in Kew Gardens, Berea, Ohio, Community development and building by Taft and Blackman Inc. The first 25 homes sold for around $11,500 in 1946.



The unique warm air radiant heating system pioneered by Taft and Blackman. Original installations used standard Janitrol Conditioners in combination kitchen-utility room.

"Most comfortable home we've lived in"... that's the concensus of opinion of Kew Gardens residents. Equally pleasing to these home owners are their gas heating costs which average less than $60 a year.

This proven performance record indicated that the combination of the unique warm air radiant system and Janitrol equipment would prove equally effective in larger, more spacious homes.

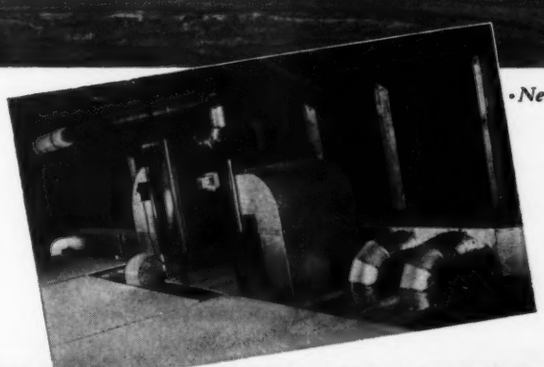


So, the same type of heating system is being used in Parkview, the latest development of Taft and Blackman which will comprise 23 larger custom-built homes in the $25,000 to $45,000 price range.

It's the fine, complaint-free performance of Janitrol equipment in low cost rental projects or in luxurious custom-built homes, that is leading more and more architects and builders to standardize on Janitrol for all installations.

For up-to-date information on Janitrol equipment and advanced installation methods, write for a complete set of A.I.A. files.





New Parkview ranch home to be occupied by Mr. Taft features two Janitrol gas-fired units installed in the attic.

®Janitrol Automatic Heating

SURFACE COMBUSTION CORPORATION • TOLEDO, OHIO

Gas and Oil Fired Conditioners and Boilers • Gas-Fired Gravity and Floor Furnaces • Unit Heaters • Attic Units and Conversion Burners.

PRODUCTS
(*Continued from page 254*)

Plastic Kitchen Counter Top

A seamless one-piece plastic kitchen counter top with backsplash and front edge moulded as an integral part of the work surface, the *G-E Monotop* is constructed of the manufacturer's Textolite decorative laminated plastics. Installation is reportedly simplified with the new development, which requires no metal trim. The top is self-supporting, 3/16 in. thick, and does not require bonding to plywood for rigidity. It can be installed over old tops or rested on base cabinets, and is held in place by a small amount of adhesive and a few wood strips. The product is being marketed in 6 ft lengths, 25 in. wide, and is available in 5 colors. The front edge is slightly raised to help prevent spilled liquids from running over onto the floor, and cleaning is said to be simplified since there are no seams. The top can be cleaned with a damp cloth and is said to resist scratches, food acids and common household chemicals. Mitre corners can be cut for "U" or "L" shaped kitchens, and sections can be butt-jointed together where work surfaces are longer than the standard 6 ft length. General Electric Corp., Pittsfield, Mass.



Seamless plastic kitchen counter top combines backsplash and molded front edge. Self supporting top can be cleaned with damp cloth

Fire Resistant Gypsum Wallboard

Firestop Bestwall, a wallboard designed for long resistance to fire has recently been given a 1 hr Underwriters' Laboratories resistance rating for ceilings when it is applied under wood joists in a single 5/8 in. layer. This is said to be the first time U.L. allowed a 1 hr rating on a dry wall ceiling. In addition, the Pacific Coast Building Officials Conference has reportedly certified that the product meets the 1 hr resistance requirements of its uniform code. Many large cities have also approved the product under fire-resistance requirements of local building codes. The success of the wallboard in withstanding fire is reportedly due to a gypsum core containing unexpanded vermiculite and incombustible fibres. The vermiculite is said to expand under fire conditions, offsetting shrinkage of the gypsum and extending the life of the board as a fire barrier. The incombustible fibres, it is claimed, provide a network of reinforcing which holds the gypsum together as heat drives out the water of crystallization and destroys internal cohesion. Certain-Teed Products Corp., Ardmore, Pa.

(*Continued on page 258*)



NEW SAFETY-DESIGN FUME HOOD for handling Radioactive Isotopes

Design approved for use by Oak Ridge Institute of Nuclear Studies

- Air foils at hood face allow air to enter without turbulences.
- Low Velocity . . . operates with less than half the CFM of air needed on a conventional type hood.
- Air current directed across working surfaces removes heavy gases.
- Entire interior of hood is stainless steel for easy decontamination.
- Steel grating supports working surface, giving load carrying capacity up to 400 lbs. per sq. ft.
- Equipped with blower switch, warning light, and "over load" warning bell.
- All service controls outside—no reaching in.
- Outside measurements: Height 9 ft.; width 6 ft.; depth 3 ft. 6 in. Five inch Stainless Steel Sink welded into top.

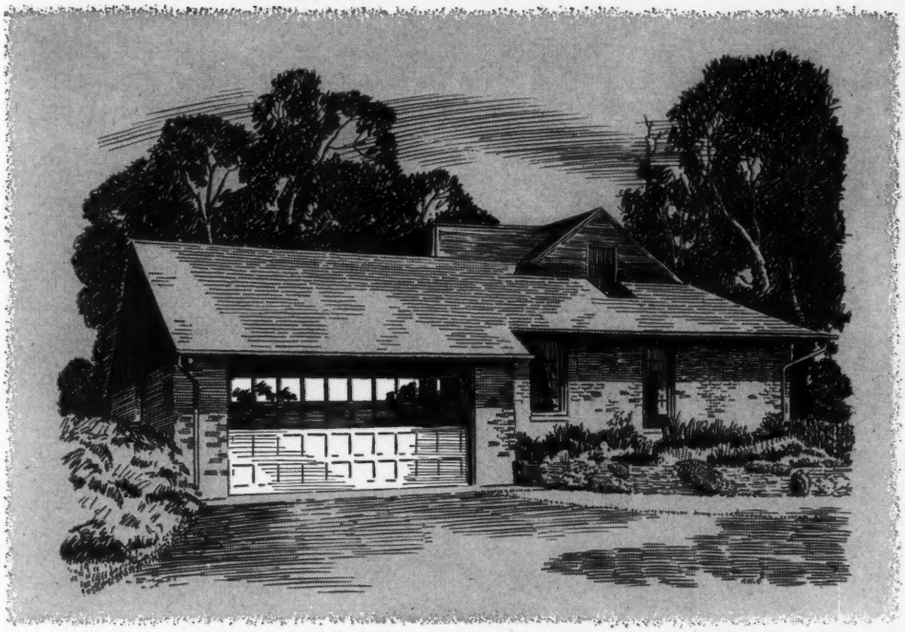
Precision built by Kewaunee Mfg. Co., one of America's oldest and largest makers of fine Laboratory Equipment, including all types of Stainless Steel Equipment for Radioactive Laboratories.

We also manufacture Laboratory Tables, Sinks, etc., for all types of Laboratories
Representatives in Principal Cities

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the Barcol OVERdoor



an IMPROVED *overhead door*

for
RESIDENTIAL
INDUSTRIAL
COMMERCIAL
applications



More and More you will find that people who investigate are standardizing on the Barcol OVERdoor. We have found it so — a number of architects, quite a bunch of contractors, some plant engineers of really big factories, and owners of commercial establishments — all have told us that comparative experience has convinced them the Barcol OVERdoor has the easy working qualities, durability, and minimum maintenance they desire. When you have a chance to make similar comparisons, please do so; it will convince you more than anything we can say . . .

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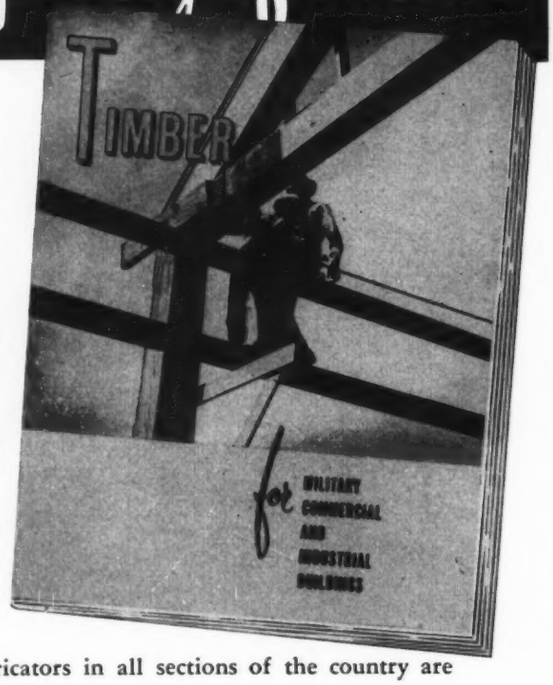
PRODUCTS
(*Continued from page 256*)

Exterior Wall Protection

Formerly marketed only in very limited quantities, a field-tested silicone base *Minwax Transparent* for protection of exterior masonry surfaces above grade is now being made generally available. Based on research undertaken by General Electric during the war to find a silicone capable of preventing moisture damage to electrical equipment in the tropics, the product was developed by the manufacturer as a companion to 2 previous types of protective coatings long in use. The new type is said to cause no appreciable change in color tone and appearance, can be used for all kinds of masonry, and is reportedly unaffected by cold. Approximate coverage is said to be 100 sq ft per gal. Available in 55 and 30 gal. drums, and in 5 and 1 gal. cans. Minwax Co., Inc., 11 W. 42nd St., New York 18, N. Y

There's plenty of timber

for BOTH DEFENSE AND CIVILIAN NEEDS



And timber fabricators in all sections of the country are ready to serve you.

Our 20-page booklet "Timber for Military, Commercial and Industrial Buildings" illustrates the many types of jobs now being built with the Teco connector system, glued-laminated construction and Lamella construction.

Here in pictures you'll see stores, markets, factories, warehouses, garages, hangars of the type that are being built now.

Specify timber—there's plenty of it and ready as usual for early delivery.

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Please send me FREE copy of "Timber for Military, Commercial and Industrial Buildings."

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Company.....

Street..... City..... State.....

AR

Concealed-Screen Television

Automatic Picture in a Wall Television, now available through a Milwaukee firm, features extra large pictures in the home without using valuable floor space taken up by a large console model. Concealing all but the screen of the television receiver, the set



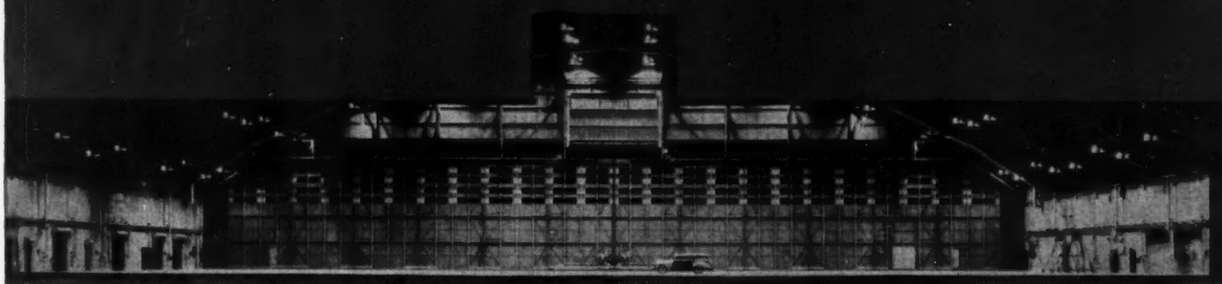
Built-in TV screen changes into decorative wall picture at flick of a switch

is placed in a cut-out in the wall — the cut-out being framed and a water color or oil painting set in over the television screen. At the flick of a switch, the picture (on tracks) is lowered into the wall, revealing a large TV screen at picture level. Placement of the screen at this level is said to give the viewer more normal vision with a resulting decline in eye strain. A wall backed by a closet where the chassis can be mounted is necessary for installation. If such is not available, however, the set can be enclosed on the opposite side in a wall case. Big Screen Television Corporation, 312 E. Wisconsin Ave., Milwaukee 2, Wis.

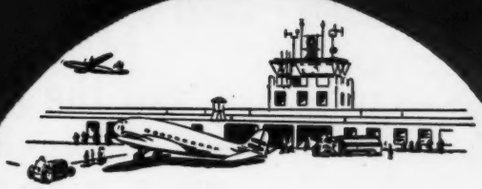
Locking Steel Rule

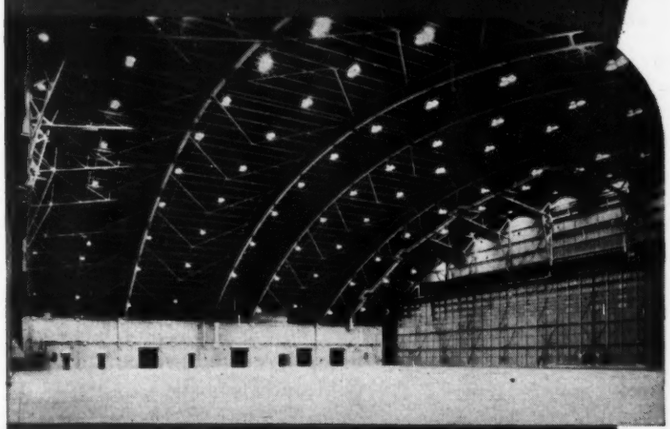
A steel measuring tape known as the *Streamline* is claimed by the manufacturer to insure accurate measurements even in the dark and in extremely hard-to-reach places. This is made possible by the design of the instrument, which includes a locking lever, so that measurements taken in dark or poorly illuminated locations can be fixed and then read when the rule is transferred to the light. Readings can be made directly from the top of the case, without computation, and it is claimed that the fixed measurement cannot slip so much as $\frac{5}{8}$ in. Other features of the tape include full markings on both edges of both sides, pistol-butt case and decimal equivalent chart. It can be used for inside and outside measure, height and depth gaugings, outside caliper measurement, and for layout work. Available in 6, 8 and 10 ft. lengths. Master Rule Mfg. Co., Middletown, N. Y.

Holophane gives the International Airport the Best-Lighted Hangars Ever Built . . .



Hangars 3, 4, 5 at New York International Airport
Roberts & Schaefer Co. Engineers; Lorimer & Rose, Associate Architects;
Karunsky, Weller & Gooch, Consultants.

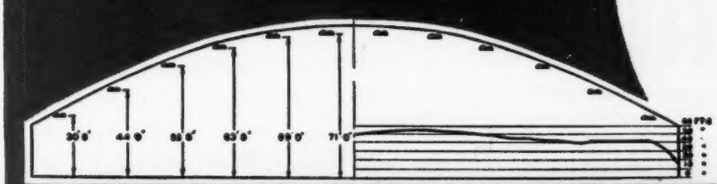




Interior Hangar No. 4.

Holophane specifics are designed for many airport areas: Hangars, Waiting-Rooms, Administration Buildings, Restaurants . . . Repair Shops, Airplane Factories and all Outdoor Servicing Areas.

Selection of the lighting system in the hangars at "Idlewild" (New York International Airport) was made after exhaustive survey and cost analysis of airport lighting all over the country . . . Holophane combination mercury-incandescent lighting was chosen by the Port of New York Authority as the most effective, efficient and economical hangar illumination for this largest and most modern airport. The Holophane Engineering Staff will be glad to consult with engineers and architects, without charge, on any specific airport lighting project.



Section, Hangar Lighting.

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THE HOLOPHANE COMPANY, LTD., THE QUEENSWAY, TORONTO 14, ONTARIO

LITERATURE

(*Continued from page 168*)

Heating Reference Books

Three books dealing with specifications and other reference material relating to various types of heating apparatus are available from Heating Publishers.

• *1951 Specifications Book of Oilburners and Fueloil.* Covering both current and older models, specifications are given for conversion burner, boiler and furnace units, listed alphabetically by trade names in each section. Specifications for conversion oilburners include model, capacity (gph), atomization, air source, ignition, oil feed, fuel and motor size. For boiler-burner and furnace-burner units, model, minimum and maximum capacities, type oilburner, type boiler, ignition and fuel are listed. 218 pp. Price $1.50.

• *Beacon Radiation Reference Book and Heat Loss Guide,* Compiled by Edward Beckenstein. Designed as a quick, reliable guide for estimation rather than a substitute for exact methods of determining heat loss, this handbook shows exact size of radiation required for both steam and hot water heating. Tables list requirements for most common sizes of rooms with provisions for a variety of glass and wall exposure and ceiling heights. c. 250 pp. Price $4.00.

• *Beacon Boiler Reference Book, 2nd Edition.* Listing alphabetically by manufacturer, this book gives full specifications for boilers rated up to 2000 sq ft of steam or equivalent hot water radiation, including both old and current makes. Larger capacity boilers are not listed, since their inclusion would have made the book unwieldy. Data and ratings in the volume were obtained from the manufacturers. Specifications include model, rating, minimum firing rate, heating surface, firebox, floor to crown sheer, grate size, floor area, base height, chimney and smoke pipe diameter. A directory and a trade name index are also included both to simplify quick reference in the book itself and to facilitate communication directly with manufacturers. An additional supplement to the volume, listing further makes, is included. 206 pp. Price $3.00. Heating Publishers, Inc., 232 Madison Ave., New York 16, N. Y.

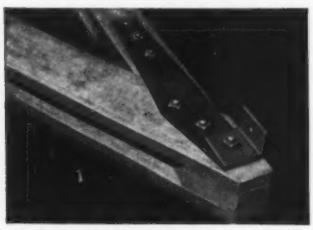
Food Service Equipment

1) Seco Square Twin Space Saver Coffee Urns; 2) Seco-Matic Dry or Moist Convertible Hot Food Tables. Catalogs illustrate dimensions, capacities and features of the manufacturer's equipment, together with specifications. Both the coffee urns and the food tables are available in gas or electric models. Special feature of the food table cited is its reportedly simple conversion from dry to moist sectional heat. 4 pp., illus.; 6 pp., illus. Southern Equipment Co., 5017 So. 38th St., St. Louis, 16, Mo.

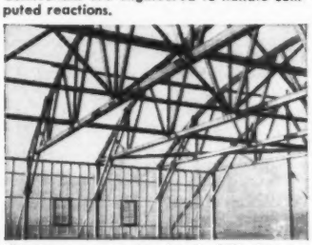
Plexiglas Dome Skylights

62% More Overhead Daylight With Wascolite Skydomes. Booklet describes details, features and installation methods for prefabricated, ready-to-install plexiglas dome skylight units. The units are manufactured in 10 standard sizes and in square, rectangular and circular shapes. Typical installations are illustrated, tables of stock models and dimensions are included. 8 pp., illus. Wasco Flashing Co., Cambridge, Mass.*

(*Continued on page 262*)

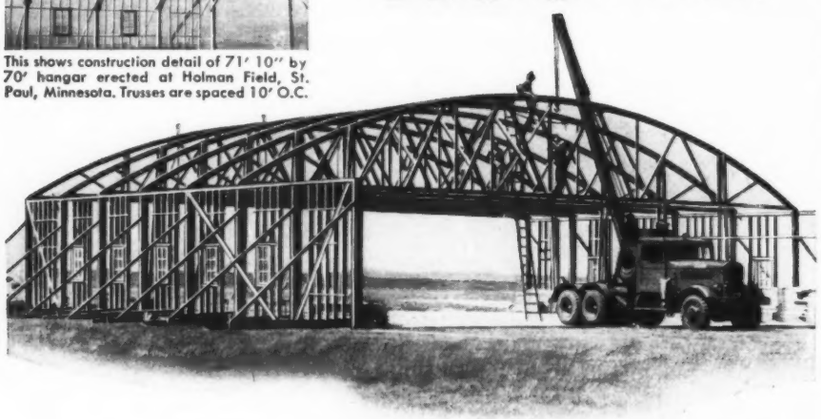


Necessary hardware items for base and crown connections are furnished with trusses. Connections are engineered to handle computed reactions.



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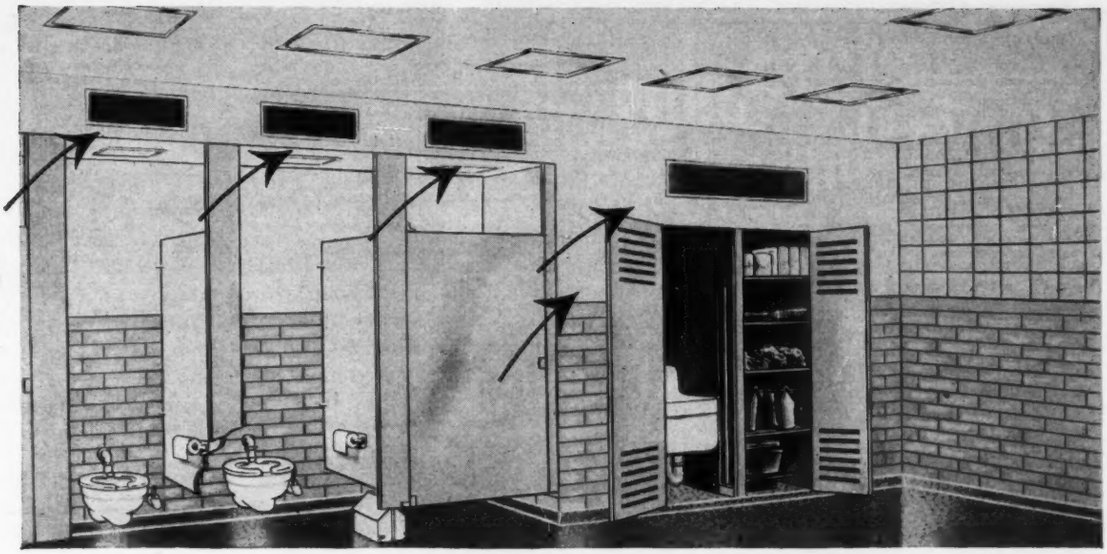
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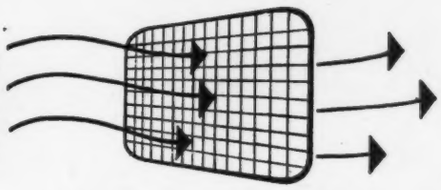
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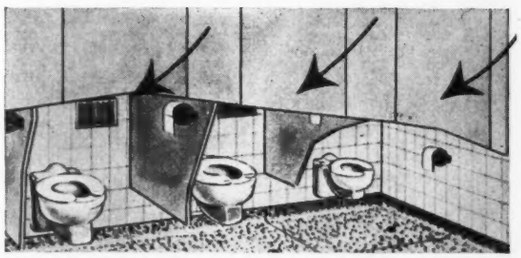


For best air circulation, odor and fume removal . . . use adequate vents on storage locker doors, recessed exhaust vents high on the wall.

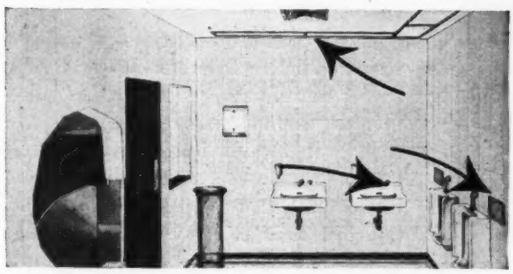
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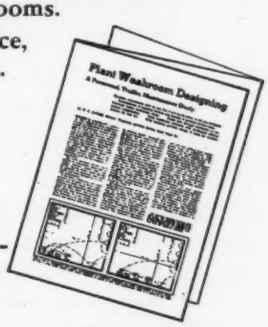
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City_____ Zone_____ State_____

LITERATURE

(*Continued from page 260*)

Porcelain Enamel Data

Architectural Porcelain: Davidson Enamel Products, Inc., A.I.A. File 15-H-2. File folder of 4 separate brochures dealing with aspects of the manufacturer's architectural porcelain enamel products; includes a booklet illustrating typical applications of porcelain enamel surfacing for both new construction and remodeling projects, such as filling stations, store fronts and fronts for both large and small buildings. Before and after views are presented along with construction details. In another booklet more extensive drawings of typical construction details are given, and a number of varied panel shapes are shown. Also included in the file are a set of recommended specifications for thin veneers, classification no. 1, metal-type, together with another set of standards for the manufacture of architectural porcelain enamel. The file is completed by a color chart of 39 shades, with the manufacturer's panels. 12 pp., 10 pp., 11 pp., 2 pp., illus. Davidson Enamel Products, Inc., Lima, Ohio.*

Prefabricated Houses

1) *Build Better, Build Sooner with Prefabrication;* 2) *Prefabricated Homes Directory.* The first of these booklets cites features and advantages of prefabricated houses of a variety of types. The second is a listing of companies from whom houses are available in specific areas. 16 pp., illus.; 8 pp. Prefabricated Homes Manufacturer's Institute, 908–20th St., NW, Washington, D. C.

Metal Protective and Paint Bonding Chemicals and Processes

A Quick Reference List in pamphlet form gives information on spray and dip methods for preserving steel, iron and zinc, and the process used in applying protective coating chemicals for aluminum. Also describes metal cleaners and rust removers and preventatives. 8 pp., illus. American Chemical Paint Co., Ambler, Pa.

Sectional Steel Cabinets for Hospitals

Tomac Steel Sectional Cabinets. Booklet gives general description and construction of modular sectional steel cabinets designed for hospitals. Detailed drawings are presented throughout, showing typical combinations, main frame details, installation plans and typical patient room layouts. 22 pp., illus. American Hospital Supply Corp., General Offices — Evanston, Ill.

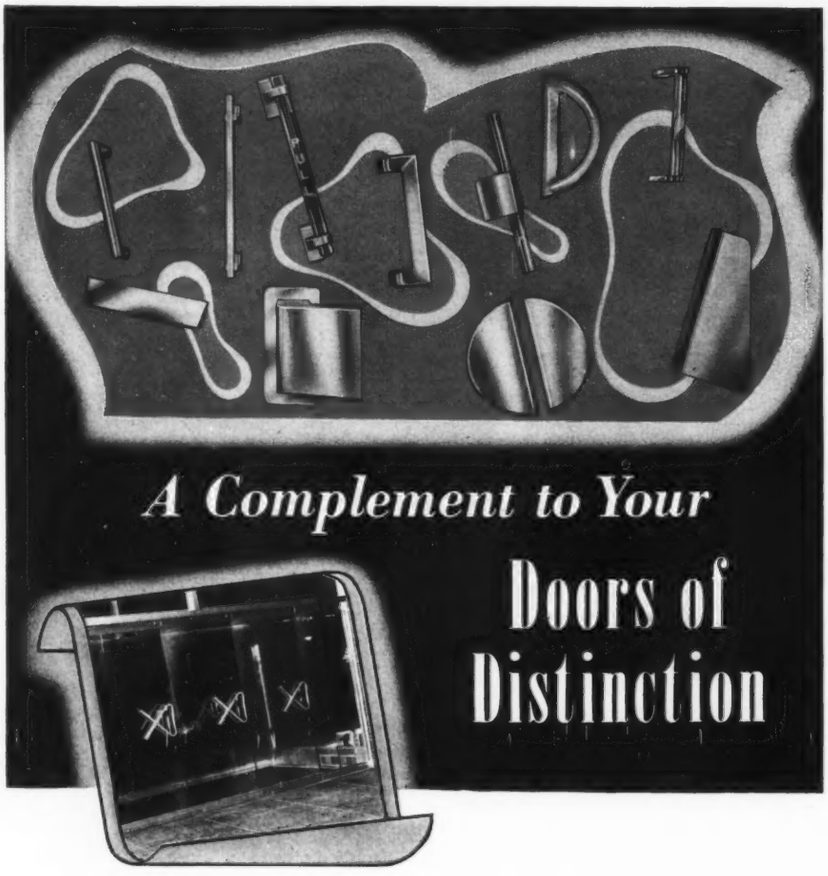
Steel Windows

Fenestra Industrial Steel Windows. Prepared for use by architects, engineers and contractors, catalog describes pivoted, commercial-projected and security windows for industrial and commercial buildings. Construction features, methods of operation, installation instructions, and complete specifications and charts of sizes are given for the manufacturer's line, including hot-dipped galvanized and bonderized windows. 8 pp., illus. Detroit Steel Products Co., 3113 Griffin St., Detroit 11, Mich.*

LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

David I. Bockius, Jr., Architect, 13 North Main, Ashland, Oregon.



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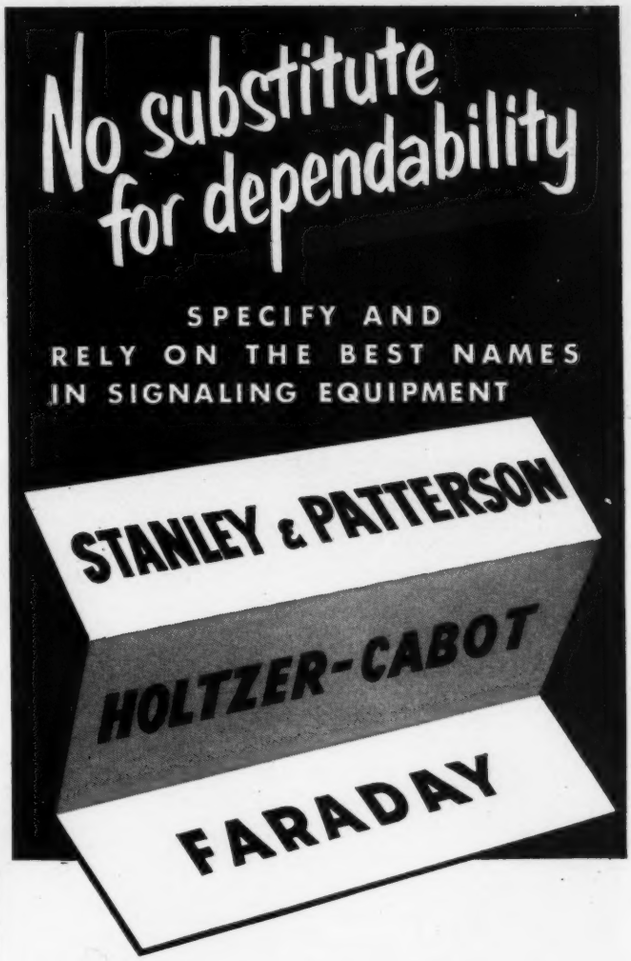
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WASHINGTON (*Cont. from p. 32*)

beyond the status of a liaison group, reaching out to bring together the tag ends of the housing efforts of the three services.

Cost Criteria Studied

Policy is playing an important part in its operations. Included in the scope of its planned function is the establishment of new criteria of cost of military shelter for the entire country. This involves setting a cost standard for each type of house, by rank of occupant, then adding to this for construction in high-cost areas and subtracting from it for building houses in low-cost areas. The new agency is trying to establish the pattern of a single house plan for personnel of equal rank in all the services. This would avoid the practices prevalent to date which have embraced a variety of housing designs for men of equal rank in the various branches. Such action will lead to a better and easier determination of cost, those in the higher councils of the agency explain.

This planned departure from previous custom is worthy of note by architects everywhere, with national emphasis turning in the housing field to military and defense shelter. Geographical considerations are expected to play an increasingly important part in the standardization of these units. For example, X house would cost the standard price decided upon, plus a certain specified increase if it is to be located in Maine, or minus a stated amount if it is to be erected in the South or Southwest.

Furthermore, the new agency is developing programs and adjudicating differences between the armed services over housing matters where these arise. The new setup calls for reference of the particularly knotty quarrels to the Secretary of Defense whenever such action is warranted. Obviously considerably more than the handling of Wherry Act housing activities is involved in the new system.

PHA Pushes Procurement

Meanwhile, the Public Housing Administration pushed forward with its procurement program, advertising for bids on the supplying of temporary units. Much of this housing was for military personnel occupancy and PHA was clear in announcing it had consulted with the Defense Department closely in ascertaining what types of housing were needed and where.

Virtually all of the $25 million appropriated by Congress for outright purchase of such housing by the federal agency will go for temporary units such as prefabricated housing, trailers and barracks-type housing. This, said PHA, is partly because of the need for urgency and partly because such housing will lend itself readily to transportation in a hurry if need be.

Plan to Spend $20 Million

Figuring an average cost of $3000 per unit, approximately 7000 dwellings could be procured with $20 million of the fund, the amount PHA planned to spend initially. It was said $5 million of the total might be held in reserve as a "cushion fund." The money was voted by Congress to implement the new defense housing program for use in the fiscal year ending next June 30.

It was reported that Army has emphasized its preference for prefabricated or

(*Continued on page 266*)



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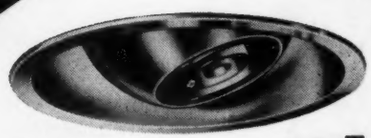
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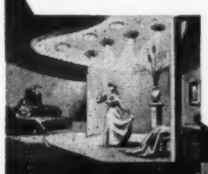
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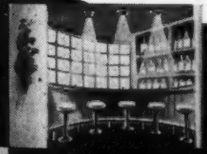
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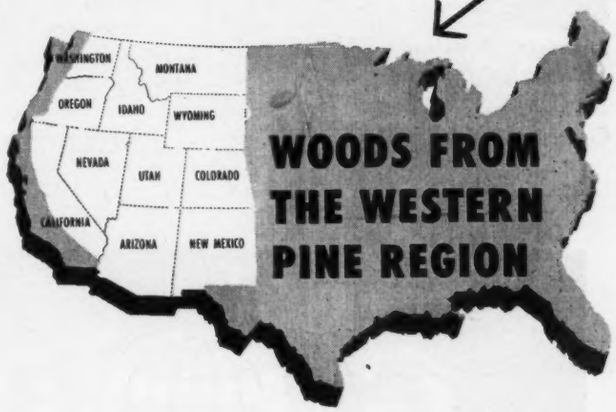


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WASHINGTON (*Cont. from p. 264*)

similar type units for family occupancy while the Air Force may divide its program between houses and trailers. The Navy is expected to take mostly trailers to solve its hurry-up housing problems.

Industry Session on Controls Scheduled for February 12

The Construction Industry Advisory Council of the U. S. Chamber of Commerce has decided to take another serious look at the operations surrounding federal building controls early in February after second quarter allotments have been announced. Ralph Walker, former president of the American Institute of Architects and chairman of the Chamber's Construction Mobilization Committee, has set February 12 as the date for the meeting.

Unlike previous sessions of this kind, the February conference will be open, as the Council's members review the current status of the construction industry under federal regulation and debate what recommendations should be made to government authorities.

It was noted that the meeting will be held after the Controlled Materials Plan has completed its transition period. The committee expects that by that time more revealing figures will be compiled on the available quantities of steel, copper and aluminum, the controlled triumvirate.

More Than 100 Groups Invited

Two delegates from each of more than 100 national trade and professional organizations interested in construction activities will attend.

Late last year, with architects taking a leading part, the industry evidenced new interest in, and concern over, the trends shown by the federal control programs. Sharpest criticism centered on the steel-for-schools situation. Subsequently, and after Congressional attention to the same theme, Defense Production Administrator Manly Fleischmann announced the division of additional steel allotments to the claimant agencies for the first quarter of 1952. These included enough steel to permit construction of 400 to 500 new school buildings during the quarter — the first announcement provided only for 300. It was said 1400 projects under construction could continue.

A.I.A. Cries "Appeasement"

The A.I.A. was quick to catch up DPA on its failure to state publicly that some 60 higher education projects, given at least a tentative go-ahead earlier, could not now be built because the first quarter adjustments meant withdrawal of these allotments.

In fact, the Institute expressed considerable displeasure with the whole affair, contending that the relief amounted to "little more than a token appeasement to remove the hot breath of Congressional ire from Administrator Manly Fleischmann's neck." It was particularly concerned about the failure of the program to provide any steel for new construction of higher education buildings during the three-months period.

The move was characterized as a "complete breakdown" of the claimant agency system, or an equivalent of such a collapse. Said A.I.A.: "It removes discretionary power from the Office of Education, leaving to that office the

(*Continued on page 268*)



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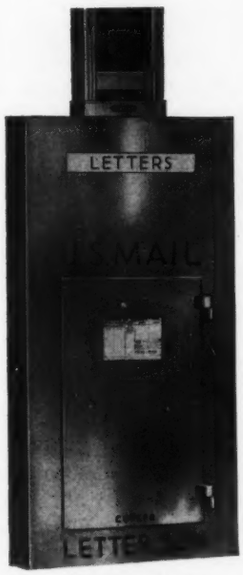
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WASHINGTON (*Cont. from p. 266*)

nasty job of reversing their earlier decision and of taking the rap for DPA's about-face. It may augur DPA intervention in other claimant agency policies."

DPA was reminded that the lack of equal progress in the building of colleges and universities threatens seriously the supply of elementary and secondary school teachers.

Wanted: Information

Materials procurement and allocation problems came under the scrutiny of the Chamber's Manufacture Committee at a Dayton, Ohio, meeting with government officials. This committee will make recommendations later based on its study of the Controlled Materials Plan. Certain improvements in the program will be suggested. Government representatives at the meeting reported that chief roadblocks in the path of quicker perfection of CMP operations were lack of specific industry information and uncertain information on the exact military requirements.

New Developments Spur AEC To Study Major Expansion

For many weeks now, the Atomic Energy Commission has been consulting with the Defense Department concerning a third major expansion of its production program. This is important to architects and builders because, should this additional construction program be undertaken — and it seems likely — it will to some extent rob the civilian economy of materials and manpower.

The third expansion phase of atomic energy production came under serious consideration for two reasons: (1) there recently was a very decided improvement in the uranium supply outlook; and (2) recent technological developments make possible the use of atomic weapons for tactical as well as strategic employment. These additional new uses obviously raise demand for the numbers of weapons.

What Effect on Building?

But where does this affect the construction industry? So far, since Korea, approximately $2 billion (or only two per cent) of the $100 billion appropriated for procurement of hard goods and construction has gone to the Atomic Energy Commission. Most of the AEC money is being spent on the second major expansion effort, now under way. This doesn't look like too much compared with the overall figure, but it must be remembered that AEC makes a disproportionately large demand on the economy for several of the items in critical supply categories, both materials and labor.

The first major expansion program of the Commission, started in 1949, comprised principally a $300 million expansion in productive capacity of the Hanford plutonium plant in Washington, and a $220 million project enlarging the output of the Oak Ridge uranium separation plant. Currently involved — in the second phase — are the H-bomb materials plant at Aiken, S. C., with eventual cost set at roughly $1250 million, and the new $500 million plant being constructed at Paducah, Ky.

These ventures take a lot of steel, copper, aluminum, building labor, and

(*Continued on page 270*)



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WASHINGTON (*Cont. from p. 268*)

other commodities in the scarce classification. As an example, the current construction program of the AEC is consuming more than seven per cent of all the nickel produced in the U. S., and the rate of consumption will increase in 1952 even if there is no decision to begin the third phase. Stainless steel tubing is being gobbled up by AEC operations at the rate of one-half the total annual production. And the peak has not yet been reached.

By June the Commission will be consuming electric power at a rate roughly two per cent of the total national supply. The demand will spurt as new plants come into operation. By June, AEC's use of electric power will be comparable to that of all of New York City.

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6500 Engineers Work for AEC

Further, the Commission's program is laying heavy demands on the supply of engineers. It employs 6500 engineers of various types and is hiring more constantly. Of the 12,000 persons noted as physicists in the country, 1200 work directly for the atomic energy program.

Finally, of the three million or so employed as construction laborers in the U. S., 52,000 were working for the AEC in December. The Commission chairman, Gordon Dean, has noted problems that are probably imminent in this sector.

"Although there is at present no overall construction labor shortage in the U. S.," he stated, "it is . . . extremely difficult to mobilize an adequate supply at the right place and the right time especially if the quantities you are dealing in are large, and this task will get increasingly more difficult as the demand begins to catch up with the supply as it is expected to do shortly."

At the peak point, demand for building labor at the Savannah River plant alone (Aiken, S. C.) will run to more than 40,000 workers.

Advance Planning Program Ends

Mid-October brought to an end the second Advance Planning Program of the federal government. This was the plan whereby blueprints and specifications were prepared for more than a billion dollars worth of new construction of non-federal public works. Uncle Sam, through the Community Facilities Service, approved interest-free cash advances amounting to $25,110,423. These went to 357 cities, 212 villages, boroughs, towns and townships, 46 counties, 263 school boards, school districts and college authorities, and 49 special districts. All the states, some territories and the District of Columbia participated.

The money from the federal coffers was enough to plan total construction estimated to cost $1,077,719,000. None of this construction expense will be covered by federal money. The local bodies must bear all of it. The planning advances, covering cost of preparation of architectural plans or engineering studies, must be returned to the U. S. Treasury, starting with the commencement of construction of each individual project.

Sanitation jobs and schools comprised the largest volume of work planned through the program. During the course

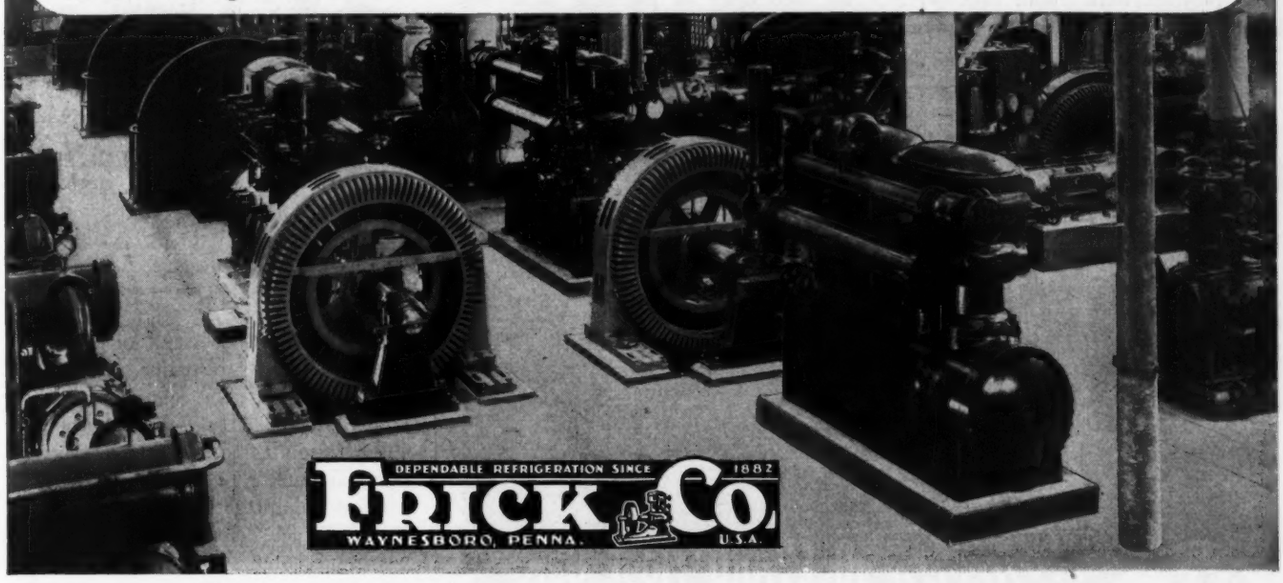
(*Continued on page 272*)

Celanese Corp. Uses 6420 Horsepower of Frick Refrigeration

Fourteen Frick refrigerating machines are in operation at the Amcelle plant of Celanese Corporation of America, near Cumberland, Md., makers of chemical yarns. Most of these ammonia compressors have been in use since 1929. The motors driving the new vertical machines, shown in the foreground, are each of 1250 hp.

This is a large-scale example of the dependability and economy of Frick ammonia refrigeration. Power requirements, when operating in summer weather on air conditioning loads, are only 0.70 hp. per ton of refrigeration.

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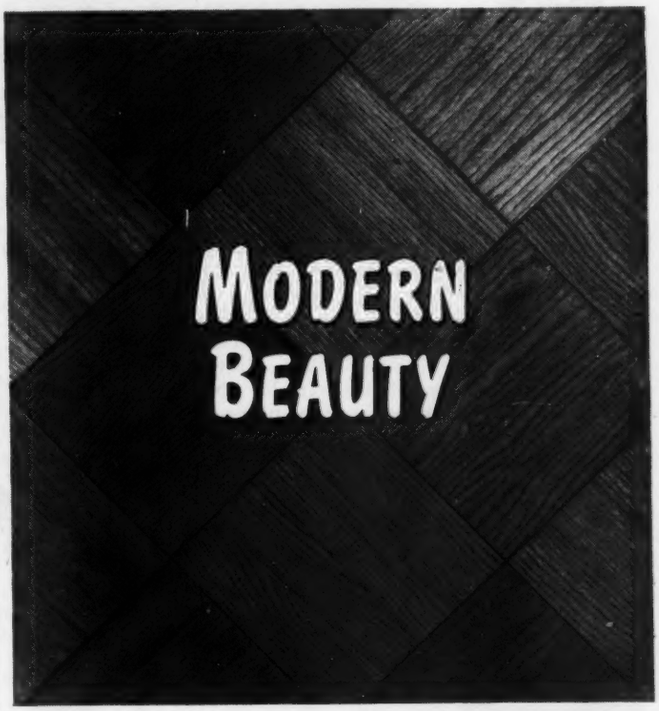
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WASHINGTON *(Cont. from p. 270)*

of the effort, the CFS received a total of 2572 applications for planning assistance altogether. The program ran two years and was restricted in September 1950, to bring it in line with the President's directive that all civilian public works programs be reviewed and limited to those projects that would best serve defense purposes. Further restrictions came last June. No applications were received after midyear. The entire program in its last year was slanted toward those communities where defense activities were keenest.

CFS noted that the widespread shortage of schools was apparent in requests for assistance in planning some 400 plants of this type.

Approved projects, by type, follow:

	No.	Est. Cost	Planning Advances
Highways, roads and streets	50	$14,595,149	$431,636
Bridges, viaducts, grade sep'ns	25	26,117,156	533,583
Airports	6	5,908,550	167,800
Sewer and Sewage works	520	378,641,960	9,301,138
Water facilities	199	183,026,625	3,342,689
Sanitary facilities	11	11,987,370	177,056
Schools	406	243,148,160	7,145,225
Hospitals, Health centers	18	33,966,902	800,210
Other public buildings	57	71,030,940	1,956,733
Parks, recreation facilities	28	8,290,707	227,690
Miscellaneous projects	26	102,136,990	1,095,213

About 250 applications were under review when the program authority expired.

Notes

• The Federal Security Agency has called attention to major savings in critical materials for schools and hospitals, effected largely through the efforts of architects employing conservation policies.

Plans submitted to the agency for approval just before the first of the year represented a 40 per cent saving in steel for these building types over what would have been required before the conservation techniques were adopted.

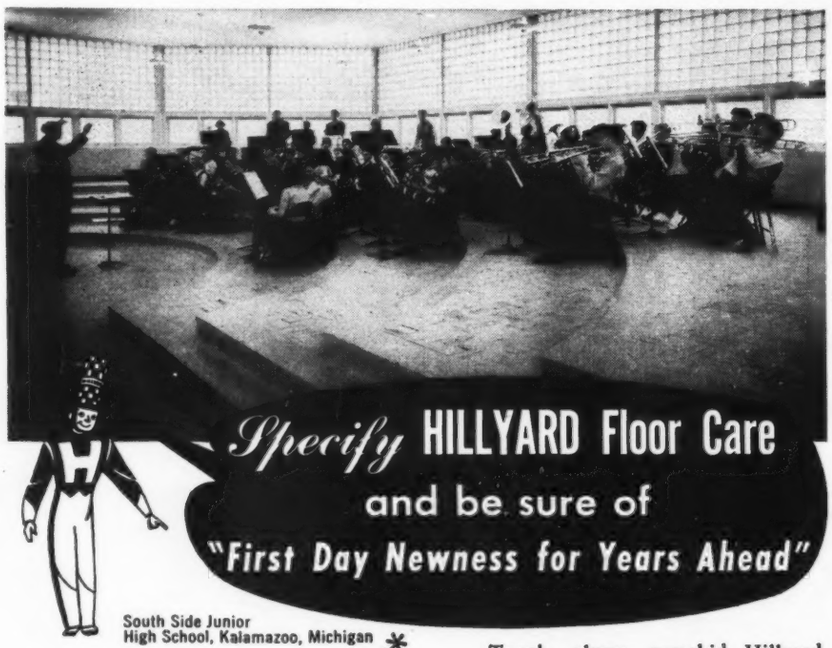
Substitution of reinforced concrete for structural steel, wider use of masonry and timber and construction of one-story school buildings where ground site permits have resulted in marked savings of this scarce commodity. In fact, the Office of Education said steel consumption per million dollars of construction had dipped below 250 tons — a reduction of some 45 per cent on school projects as a whole compared with normal unrestricted usage.

• Approval of new non-federal hospital construction under the Hill-Burton Act brought the total number of sanctioned projects to 1661 as of November 1. Most of the new approvals continued to be centered in the southern states.

Recapitulation of the program to date by the U. S. Public Health Service showed estimated cost of all projects approved to be $1,252,057,750. The federal share of this construction cost was placed at $452,984,185. In addition to new hospitals, health centers, clinics and hospital additions are included in the program.

The new building activity is adding 79,663 beds to the nation's inventory and

(Continued on page 274)



South Side Junior High School, Kalamazoo, Michigan *

Architects—Louis C. Kingscott and Associates

* Planners for this beautiful new school made a wise decision—called a Hillyard floor expert (Hillyard Maintaineer) for advice on floors while building was in the blue print stage. The Maintaineer, schooled to work hand in hand with architects, made his survey, prepared a plan to assure protection to all floors throughout the building, (even to specifications for the marking of the new gym floor). Now in daily use, the new school follows labor-saving Hillyard recommendations for a lifetime of beauty.

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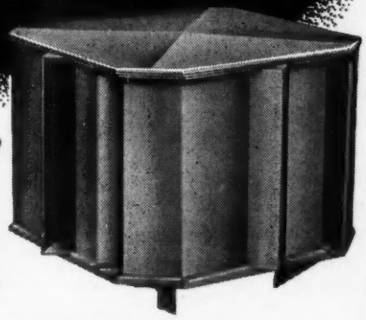
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THE RECORD REPORTS

(*Continued from page 272*)

258 health centers plus 44 other health centers combined with general hospital facilities. Of the 1661 projects approved as of November 1, 770 were in operation, 747 under construction, and 144 others in the "initially approved" category. The overall figures include some activity in U. S. possessions.

• The airport construction program involving federal-aid for new construction of airfields and improvements of existing facilities is slightly dormant but not dead.

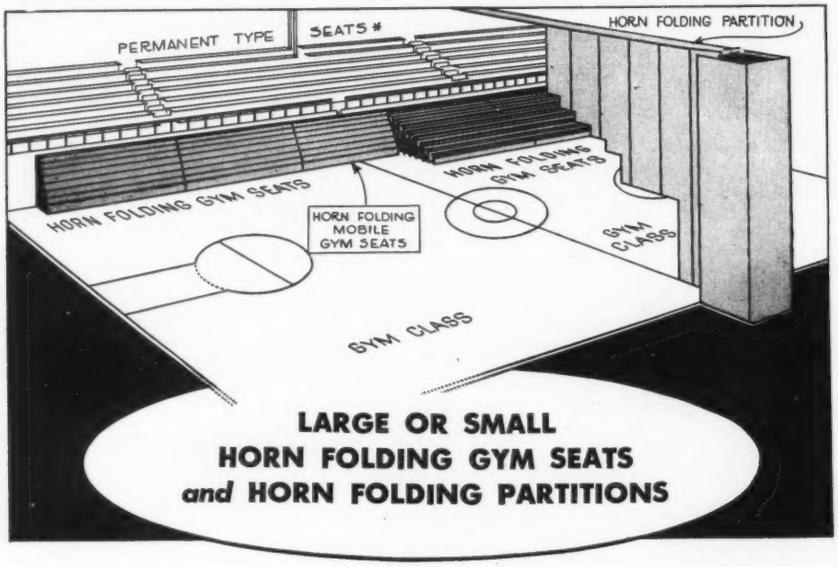
Civil Aeronautics Administrator Charles F. Horne has called attention to the fact that many important projects have been deferred for the present. Controlled materials given this program for first quarter 1952 represented only 65 per cent of stated requirements for carbon steel, 35 per cent for structural.

• America will need approximately 14.5 million homes in the next 10 years in the opinion of Dr. Richard U. Ratcliff, former director of housing research for the Housing and Home Finance Agency. He made this estimate in a speech before the fall meeting of the Prefabricated Home Manufacturers' Institute. Dr. Ratcliff, now professor of land economics at the University of Wisconsin, said an average of 700,000 new dwellings must be built annually to house new families and replace units destroyed by fire and disaster. An extra 750,000 homes will be needed each year to replace temporary and substandard dwellings, he added. The amount of housing needed was described as a challenge to the construction industry, especially to prefabricated home builders.

• The Bureau of Labor Statistics has revised its wholesale price index procedure, effective this month. The revised index uses the period 1947–1949 as equal to 100 instead of the year 1926 as before. Value of sales for 1947 is being used in apportioning weights to all the commodity groups, including building materials and its sub-groups. That is the only postwar year for which complete census of manufactures sales data are available and adequate.

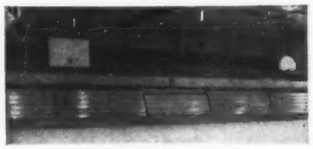
Despite these reductions, however, work on going projects will continue. And CAA's office of aviation defense requirements has found materials to authorize commencement of work on "a number of high priority projects." Sponsors have helped by redesigning structures to eliminate critical materials and to substitute those items in more plentiful supply.

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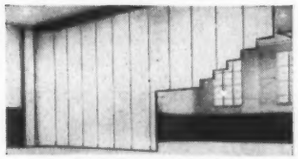


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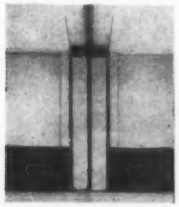
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Jan. 8–10: Annual Meeting and election of officers, National Constructors Association — Waldorf-Astoria Hotel, New York City.

Jan. 12: Annual Meeting, Alabama

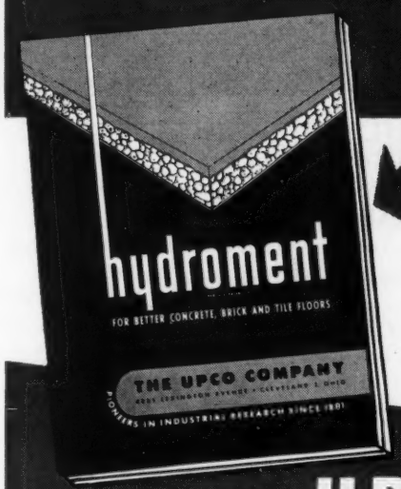
(*Continued on page 276*)

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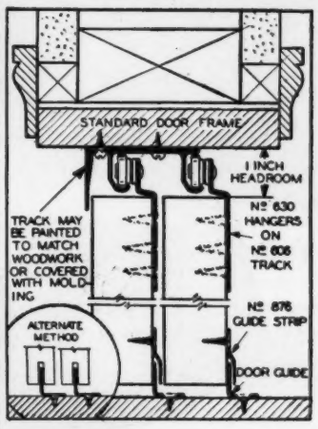


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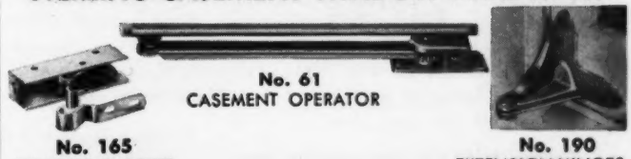
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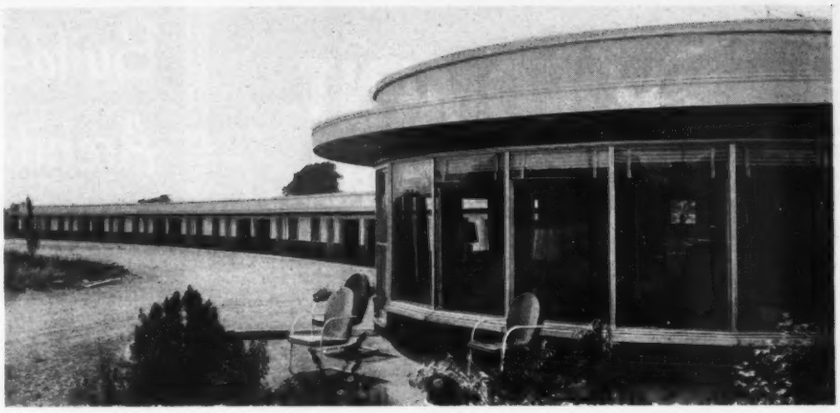
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(*Continued from page 274*)

Society of Architects — Birmingham, Ala.

Jan. 14–17: Plant Maintenance Show — Convention Hall, Philadelphia.

Jan. 14–Feb. 7: Gold Medal Exhibit of architectural works, Architectural League of New York — League building, 115 E. 40th St., New York 16, N. Y.

Jan. 15: Why Experimental Films? — third of 12 evenings on "The Related Arts of Today" presented by the Junior Council — Museum of Modern Art auditorium, 11 W. 53rd St., New York City.

Jan. 16–18: Eighth Annual National Technical Conference, Society of Plastics Engineers Inc. — Edgewater Beach Hotel, Chicago, Ill.

Jan. 16–Mar. 9: Buildings by Frank Lloyd Wright; three-dimensional color photographs set in individual viewers to show the office building and recently completed research tower designed by Frank Lloyd Wright for the Johnson Wax Company, Racine, Wisc. — Museum of Modern Art, 11 W. 53rd St., New York City.

Jan. 20–24: Eighth Annual Convention and Exposition, National Association of Home Builders — Stevens and Congress Hotels, Chicago.

Jan. 25–27: Annual Meeting, Society of Architectural Historians — New York City.

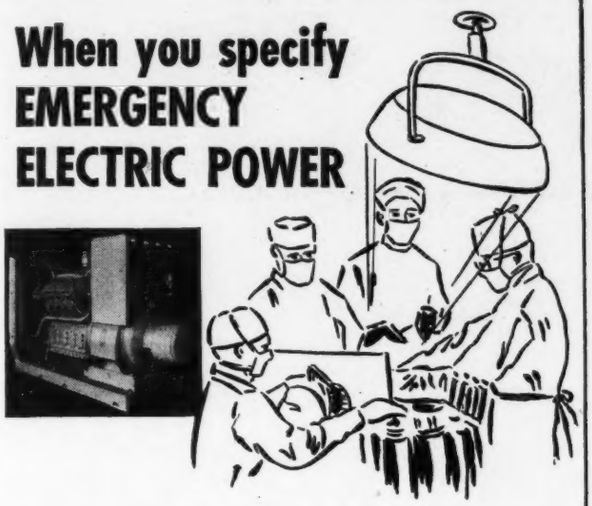
Jan. 25–27: Annual Meeting of the Church Architectural Guild of America and the North American Conference on Church Architecture — Chicago Theological Seminary, University of Chicago, Chicago, Ill.

Jan. 30–Apr. 20: Prints by Modern Masters; large exhibition of important work in the graphic arts — Museum of Modern Art, 11 W. 53rd St., New York 19, New York.

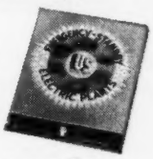
Feb. 5: Poetry Evening — Dylan Thomas; fourth of 12 evenings on "The

(*Continued on page 278*)

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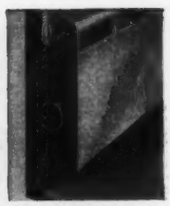
C. EASE OF INSTALLATION PLUS ECONOMY: Less time is used in installation because Vulcan finned-tubes are light in weight, require fewer fittings. Patented Hangers speed work. For details on Vulcan Commercial Linovector and Baseboard Radi-Vector see Sweets catalog.



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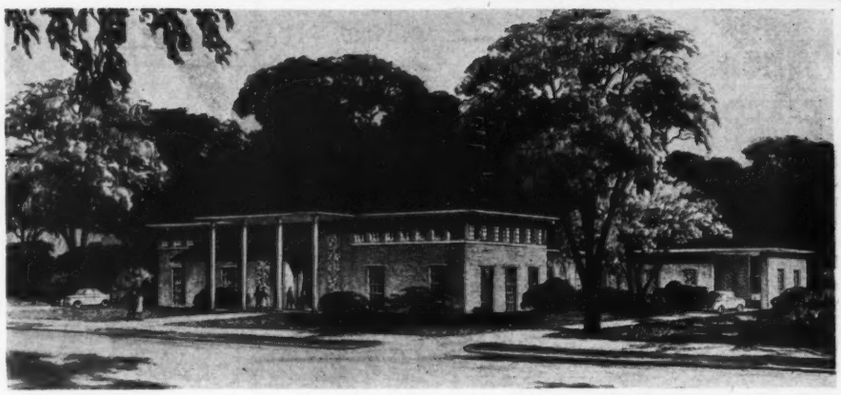


Radi-Vector semi-recessed with Type K Cover.



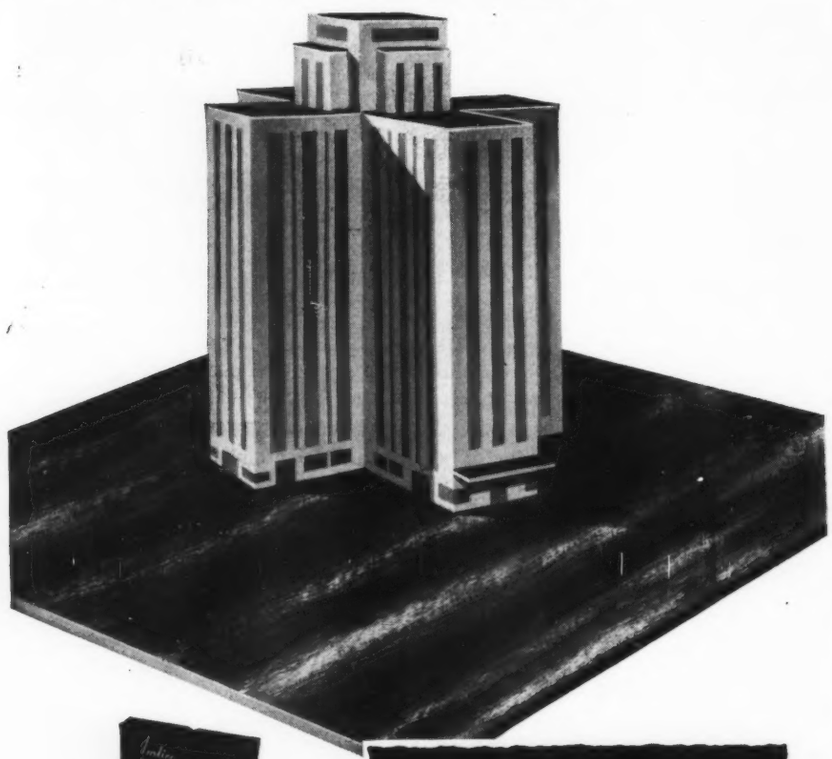
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THE RECORD REPORTS



Architects Francis Keally and Howard S. Petterson of New York have planned the new embassy for the Iranian Government in Washington as "a modernized interpretation of Iranian architecture." Colored antique tiles, used for many centuries in Iranian building design, will be imported from Iran for the exteriors

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(*Continued from page 276*)

Related Arts of Today" presented by the Junior Council — Museum of Modern Art auditorium, 11 W. 53rd St., New York 19, N. Y.

Feb. 5–8: The Acoustical Spectrum — Sound, Wanted and Unwanted; in-service training course sponsored by the University of Michigan School of Public Health in collaboration with the Institute of Industrial Health — Auditorium, School of Public Health, University of Michigan, Ann Arbor, Mich.

Feb. 11–Mar. 7: Gold Medal Exhibit, Design and Craftsmanship in Native Industrial Arts, Architectural League of New York — League building, 115 E. 40th St., New York City.

Feb. 12: Symposium: The New Sculpture; fifth of 12 evenings on "The Related Arts of Today" presented by the Junior Council — Museum of Modern Art Auditorium, 11 W. 53rd St., New York City.

Feb. 21–22: Tenth Annual Conference, Society of the Plastics Industry Ltd. (Canada) — Royal York Hotel, Toronto.

Feb. 23–27: Regional meeting and architectural exhibit, American Association of School Administrators — St. Louis.

Feb. 25–28: 33rd Annual Convention, Associated General Contractors of America — Hotel Statler, Detroit.

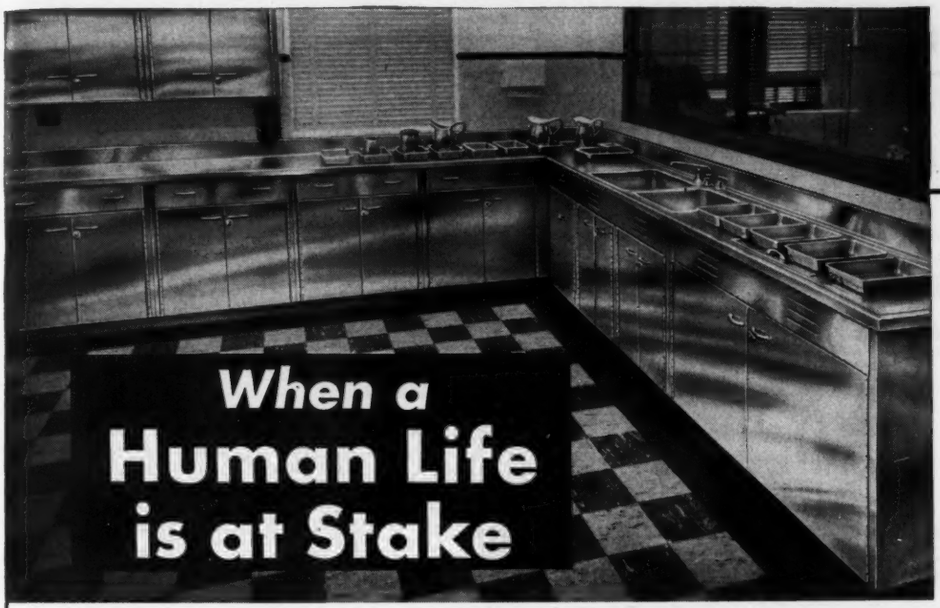
Feb. 26: The Writer Looks at Painting; sixth of 12 evenings on "The Related Arts of Today" presented by the Junior Council — Museum of Modern Art auditorium, 11 W. 53rd St., New York 19, New York.

Feb. 27–Apr. 13: Fifth Annual Festival of Contemporary Arts — University of Illinois, Urbana-Champaign, Ill.

Mar. 5–8: 38th Annual Convention, Michigan Society of Architects — Hotel Statler, Detroit, Mich.

Mar. 8–12: Regional Meeting and

(*Continued on page 280*)



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THE RECORD REPORTS



U. S. Electrical Motors Inc. plans $3.5 million motor manufacturing plant in Orange County, Calif.: 50,000-sq-ft administration building (right) of reinforced concrete and face brick, 250,000 sq ft of covered manufacturing area. Architects: Marsh, Smith & Powell



Framework of Robert Ave. School, St. Louis, Mo. • V. Harry Rhodes, Commissioner of School Buildings • Contractor: Juengel Construction Company

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(*Continued from page 278*)

architectural exhibit, American Association of School Administrators — Los Angeles.

Mar. 11: De Divina Proportione; the importance of proportion in art, especially in architecture; seventh of 12 evenings on "The Related Arts of Today" presented by the Junior Council — Museum of Modern Art auditorium, 11 W. 53rd St., New York City.

Mar. 11–14: Fifth National Plastics Exposition, sponsored by the Society of the Plastics Industry—Convention Hall, Philadelphia.

Mar. 17–Apr. 4: Gold Medal Exhibit of mural painting, Architectural League of New York — League building, 115 E. 40th St., New York 16, N. Y.

Mar. 22–Apr. 6: Second Chicago International Trade Fair — Navy Pier, Chicago.

Mar. 26: New Poets Introduced by William Carlos Williams; eighth of 12 evenings presented by the Junior Council — Museum of Modern Art auditorium, 11 W. 53rd St., New York 19, N. Y.

OFFICE NOTES

Offices Opened

• Merritt-Chapman & Scott Corp. has announced the opening of an office in Dallas, Tex., to serve as headquarters for the company's construction activities in the Southwest and Gulf Coast areas.

• The Small Defense Plants Administration has opened its new headquarters in the Old Washington Post Building at 1337 E Street, N. W., Washington, D. C.

New Firms, Firm Changes

• Bagg and Newkirk, Architects, have announced that Clement R. Newkirk

(*Continued on page 282*)

New SQUARE D

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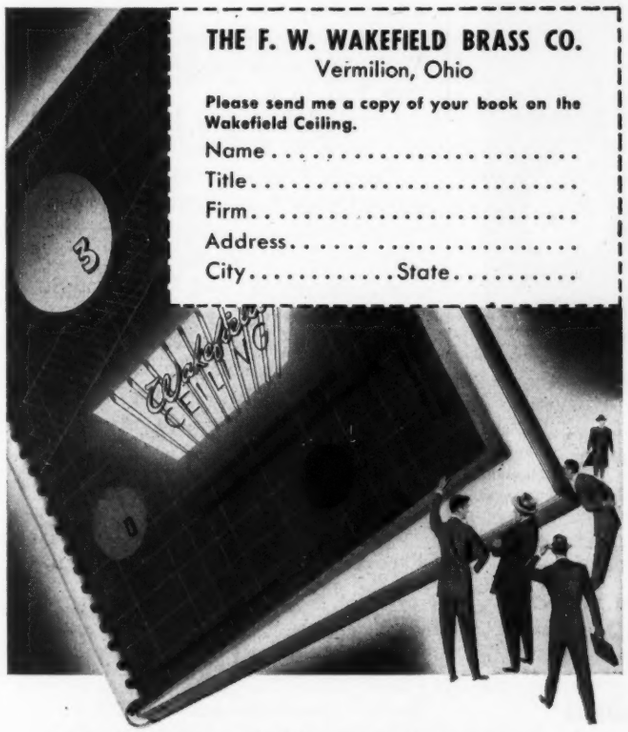
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THE WOOD OFFICE FURNITURE INSTITUTE

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STUDENT DESIGN COMPETITION

$2,000 *in Cash Awards*

for the most original and practical designs for an

Office Desk and Chair

OPEN TO:
Students enrolled in accredited schools of architecture, industrial design, art, technical studies, etc., within territorial United States.

THE PRIZES:

Grand prize	$1,000	*and 5 additional prizes of $50 each.*
(Plus expense-paid trip to San Francisco for award)		
Second prize	$500	
Third prize	$250	*Total: $2,000.*

THE PROBLEM:
To design a desk and matching chair, primarily of wood, for general all-around office use. Entries will be judged on the basis of originality of design, utility, and economy and feasibility of production. It is suggested that participants make a preliminary study of current office furniture designs in the showrooms of local office furniture dealers. In addition, some analysis should be made of general office desk-work and layout, as related to office furniture design.

CONTEST DATES AND AWARDS:
The competition is open from January 1, 1952, through midnight, April 15, 1952. Contest winners will be announced on May 18, 1952, at the National Office Management Convention in San Francisco. Grand Prize winner will also be given transportation and expenses to San Francisco for two days to receive award at NOMA Convention on May 18, 1952.

ENTRANCE INFORMATION AND RULES:
Contestants' drawings should be 30″x40″ in size, in 2″ = 1′ scale. Drawings should include top plan, front and side elevations, at least one perspective, and detail drawings, where needed, to understand design, construction or use. Types of wood to be used may be listed.

Neither contestant's nor school's name should appear on drawing. Identification should be made by accompanying sealed letter. Entries should be accompanied by: 1. contestant's signed statement that his work is original; 2. statement from school instructor or dean that student is enrolled in school.

All entries become the property of the Wood Office Furniture Institute and cannot be returned.

For more detailed contest folder and entry blanks, write to address below. (Use of entry blank is optional.)

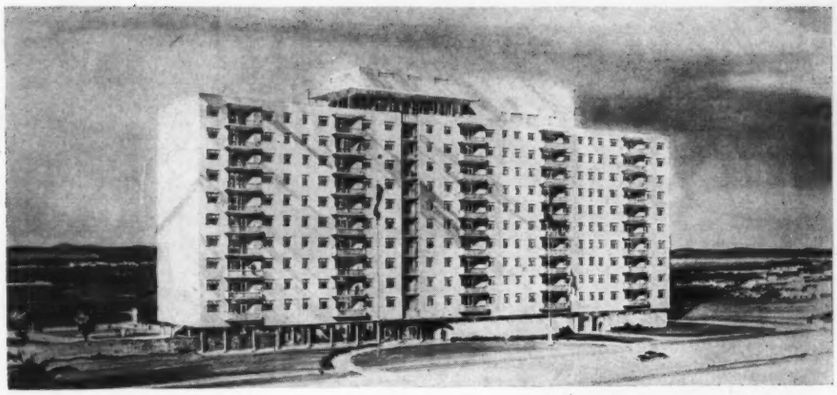
NOTE TO SCHOOL OFFICIALS:
Contest poster announcements, folders and entry blanks may be obtained by writing to the address below. Contest entries should be sent to

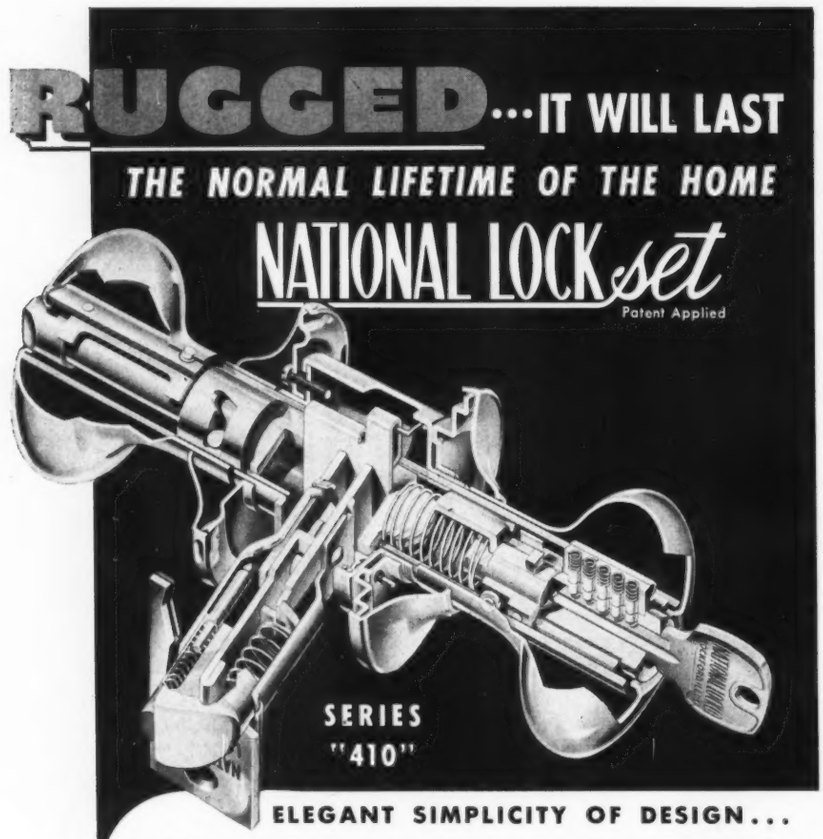
The Wood Office Furniture Institute
730 11th Street, N.W. • Washington 1, D.C.

The Wood Office Furniture Institute is a trade association of manufacturers of wood office furniture: desks, chairs and other equipment. Among its activities is a research program aimed at improvement of wood office furniture design. Through this competition, the Institute hopes to stimulate thinking along these lines.

THE RECORD REPORTS

The first multi-story building to be built in the Belgian Congo under the new 10-year development plan of that country will be a 12-story apartment building in Leopoldville to house professional, scientific and other Government officials. It will be reinforced concrete, with exteriors faced in precast quartz and cement slabs. Architects: Alvin L. Aubinoe; Harry L. Edwards and Edgar C. Beery, Associates





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(*Continued from page 280*)

has retired as a partner of the firm. Egbert Bagg will continue the architectural practice under the same name, Bagg & Newkirk, and with offices at the same address, 258 Genesee St., Utica, N. Y.

• A. Stanley McGaughan and Hugh B. Johnson announce the formation of a partnership, McGaughan & Johnson, Architects, with offices at 821 19th St., N. W., Washington 6, D. C.

New Addresses

The following new addresses have been announced:

American Society of Heating and Ventilating Engineers, 62 Worth St., New York 13, N. Y.

Leroy J. H. Brown, Architect, 1832 N. Capitol St., Washington, D. C.

Everett Brown Associates Inc., Interior Design Consultants, 545 Butter St., San Francisco, Calif. (headquarters). Branches: Suite 200, 664 N. Michigan Ave., Chicago, Ill., and 31 E. 72nd St., New York City.

L. E. Byfield, Architect, 7630 Washington Blvd., Indianapolis 20, Ind.

William J. J. Chase & Associates, Architects, 502 Candler Bldg., Atlanta 3, Ga.

Marcia Mead, Architect, 207 E. 32nd St., New York 16, N. Y.

Homer M. Turner, Architect, 732 N. Park Ave., Fremont, Neb.

AT THE COLLEGES

Invite Applications for $1200 Lowell M. Palmer Fellowship

Applications will be received until March 1 for the 1952–1953 Lowell M. Palmer Fellowship, which will offer a stipend of $1200 to "assist a student of

(*Continued on page 284*)

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GE3009 D.P. brown handle	or	GE3089 D.P. ivory handle
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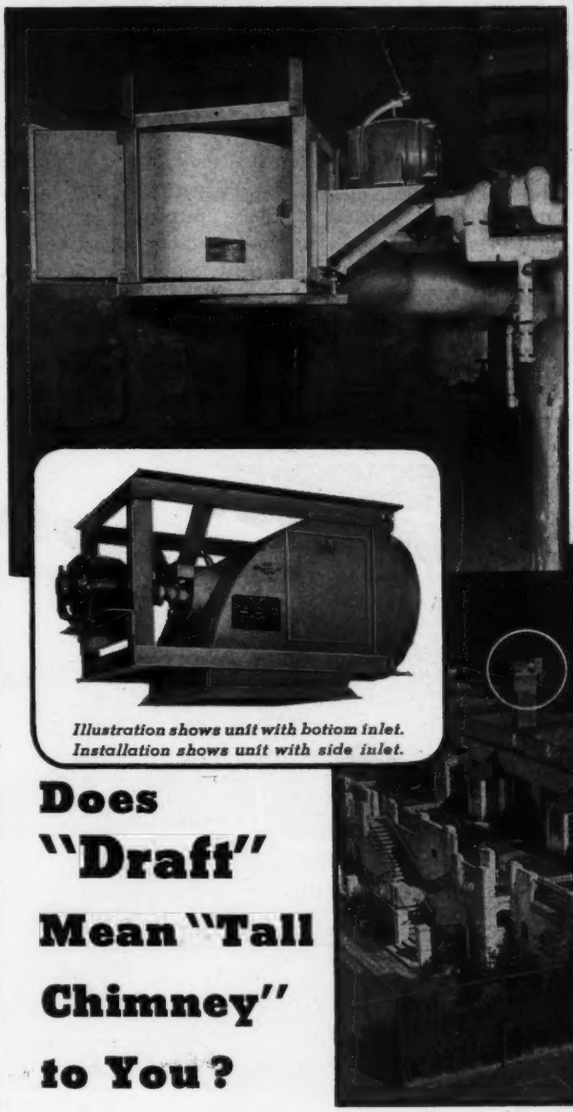


Illustration shows unit with bottom inlet. Installation shows unit with side inlet.

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 (*Continued from page 282*)

unusual promise to undertake the advanced study of architecture at Princeton."

Applicants must be citizens of the United States, holders of a Bachelor's degree, less than 27 years of age on Oct. 1, 1952 and in good physical condition.

In making the award particular consideration will be given to (1) achievement in architectural design; (2) personal qualifications; (3) scholastic record; (4) professional experience.

The award will be announced April 1. Application blanks may be obtained by addressing the Secretary, School of Architecture, Princeton University, Princeton, N. J.

Contemporary Arts Festival Is Scheduled at Illinois

The fifth annual Festival of Contemporary Arts will be held from February 27 to April 13 at the University of Illinois, Dean Rexford Newcomb of the College of Fine and Applied Arts has announced.

Events during the Festival will include concerts, lectures, plays, opera and exhibitions in the fields of music, literature, dance, drama, motion pictures, architecture, printing.

This year's edition of the annual Illinois exhibition of contemporary American painting, always a feature of the Festival, will include some 140 paintings by artists throughout the nation.



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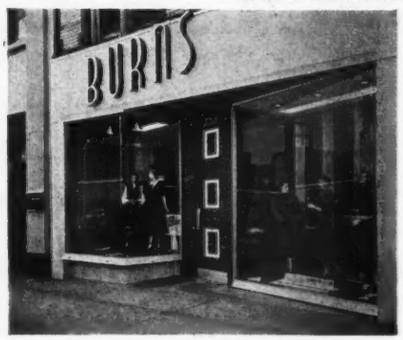
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David H. Fishman Photos



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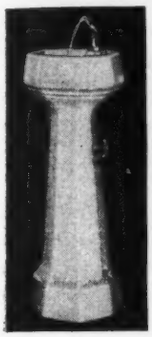
Walter H. Sobel and J. Stewart Stein, architects and engineers, of Chicago, have recently completed a thorough modernization job on a small shop in Oak Park, Ill., using no critical materials.

Burns Women's Apparel (photos above and below) has a storefront entirely of marble, storefront metal and glass, with wood doors and a porcelain enamel sign. The new ceiling, acoustic tile glued to rock lath, is suspended on wood framing.



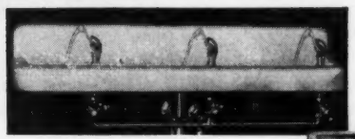
(*Continued on page 286*)

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- WALL AND RECESS
- BATTERY TYPES
- COOLERS



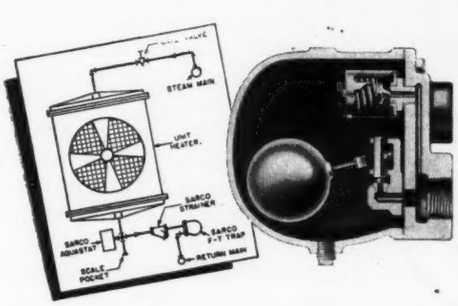


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THE RECORD REPORTS

(*Continued from page 284*)

COMPETITIONS

$2000 in Awards Offered for Office Desk, Chair Designs

A nationwide student design competition sponsored by the Wood Office Furniture Institute offers a total of $2000 in cash awards for "the most original and practical designs" for an office desk and chair, primarily of wood.

The competition, which will run from January 1 through midnight, April 15, is open to students enrolled in accredited schools of architecture, industrial design, art, technical studies, etc., within the territorial U. S.

Prizes will be awarded as follows: Grand Prize — $1000, plus expense-paid trip to San Francisco to receive prize at National Office Management Convention in May; Second Prize — $500; Third Prize — $250; and five additional prizes of $50 each.

Full details are available from: The Wood Office Furniture Institute, 730 11th Street N.W., Washington 1, D. C.

Chicago Tribune Invites "Better Rooms" Designs

Fifty-two prizes totaling $24,050 will be awarded by the Chicago Tribune in the sixth annual Better Rooms contest.

Twenty-eight prizes totaling $12,950 will be awarded for designs for seven rooms furnished and decorated in modern style. Twenty-four prizes totaling $11,000 are offered for six rooms decorated and furnished in traditional style.

Complete details are available from: Better Rooms Competition, Chicago Tribune, Chicago 11, Ill.

MEETING OF HISTORIANS PLANNED JANUARY 25–27

The annual meeting of the Society of Architectural Historians is to be held in New York on January 25–27.

A full program has been arranged for the meeting, with special sessions on early and late New York architecture, architecture outside the U. S., preservation and restoration of buildings in the New York area, and Revivalist architecture in New York.

Sessions will be held at the Columbia University Faculty Club, the Morgan Library, the New York Historical Society, the Metropolitan Museum of Art and the Architectural League.

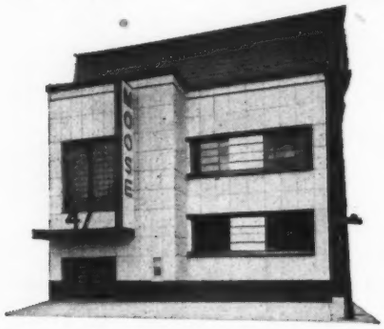
Special exhibits of architectural drawings, sketches and photographs are planned at these institutions in conjunction with the sessions. The Columbia University exhibit will be held at the Avery Architectural Library.

A special feature of the meeting will be a tour of historic New York buildings organized and conducted by Talbot Hamlin.

CORRECTION

The W. J. Haertel & Co. advertisement on page 349 of the October issue of the RECORD featured the Sans Souci Hotel in Miami Beach, Fla., Roy F. France & Son, Architects. The name of Morris Lapidus, Associate Architect, was inadvertently omitted.

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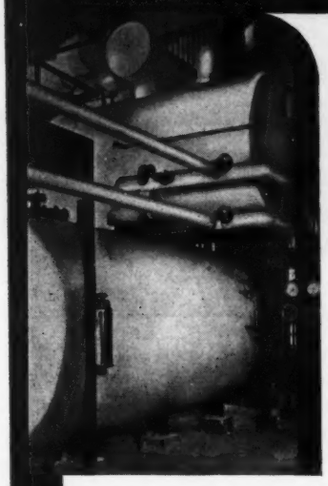
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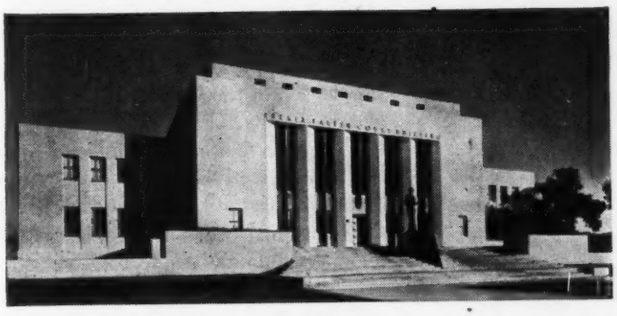
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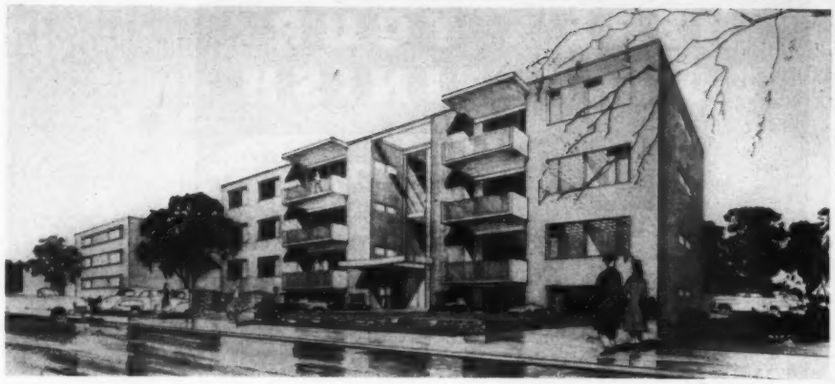
For Specifications refer to SWEET'S FILE, 17c-GA

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CANADA

(*Continued from page 18*)



This apartment house in Toronto was designed by Architect L. E. Venchiarutti. The extra cost of balconies was sold to owner, Saracini Construction Co., Ltd., for appeal to higher-income tenants

Construction with Permalite lightweight aggregates

requires less steel...

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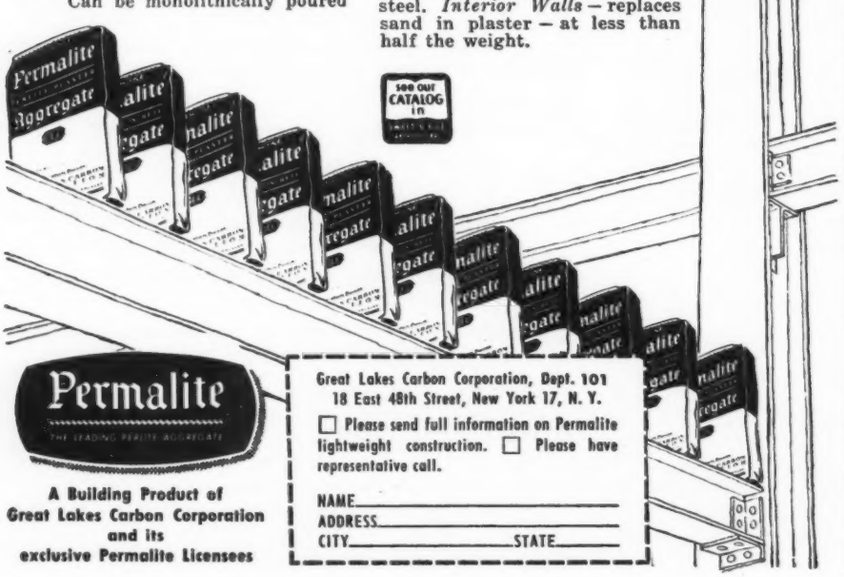
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NEW CITIES (*Continued*)

The *Post* concludes that a new kind of business corporation is called for, to operate with government aid to acquire control of land and private capital to build on it.

McGill Architecture Director Cites Planning Concept Gains

John Bland, director of the School of Architecture of McGill University, Montreal, and a practicing town planner, feels community planning has made great strides in general acceptance since the war.

Mr. Bland cited some of these advances in an address before the recent convention of the Canadian Association of Real Estate Boards in Quebec City.

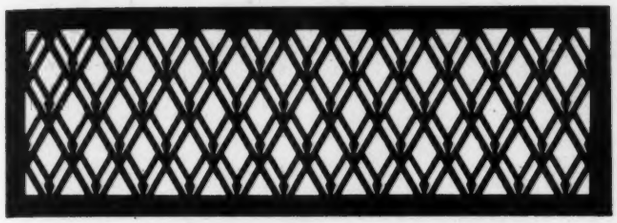
"There have been developments upon the administrative plane, in education, in the resuscitation of the old Town Planning Institute and in the greater understanding and application of scientific techniques to planning problems.

"There is also a notable trend toward the more comprehensive consideration of new residential areas by ordinary builders. The well-organized shopping center is not yet a commonplace; but it, for example, is no longer considered an exotic Californian concept and a moondream for Canada.

"On the other hand there is still too little actual control on the municipal level; there are too many unimaginative subdivisions, and too many promoters with the greatest possible immediate profits exclusively in mind.

"There is, however, a growing realization that planning is an ordinary everyday function of local government. Departments of planning are being formed in our larger cities to perform the technical functions of more or less ineffective planning commissions.

(*Continued on page 290*)



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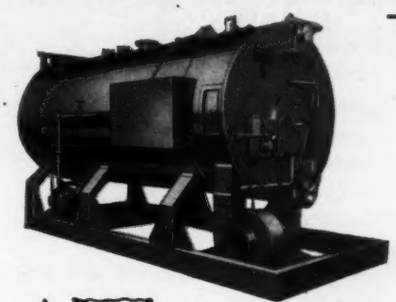
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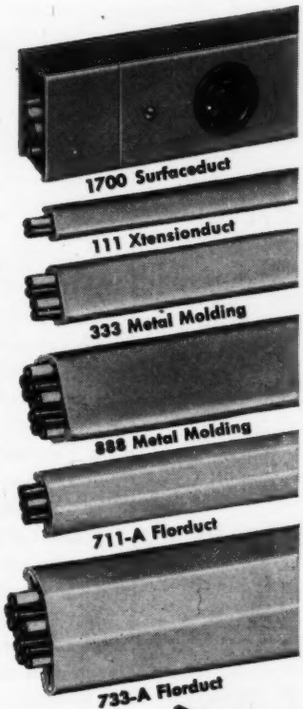
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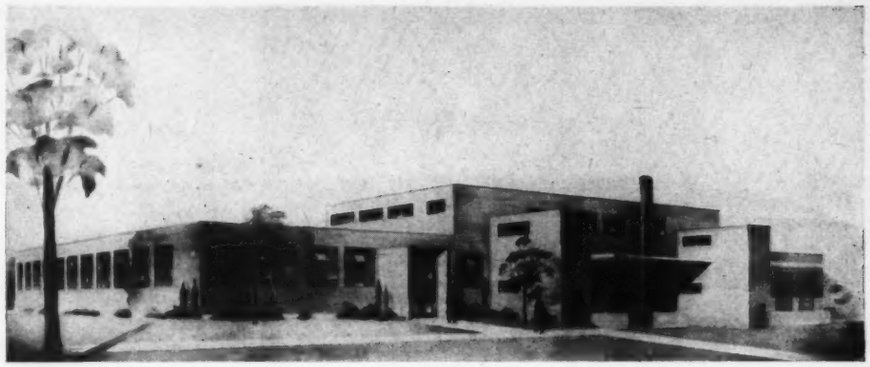
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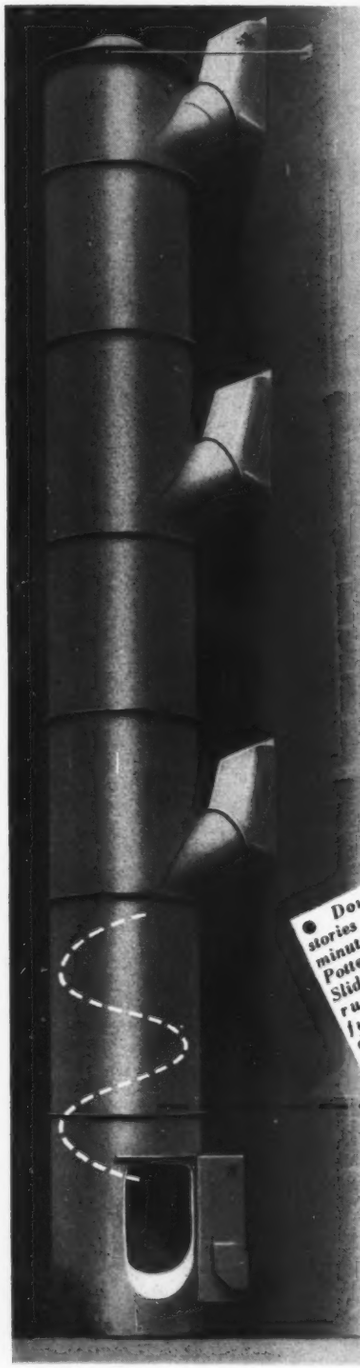
THE RECORD REPORTS

CANADA

(*Continued from page 288*)

Factory for Canadian Hanson & Van Winkle Co. Ltd., Etobicoke, Ont., 120 by 200 ft, will have steel frame, buff brick walls, concrete floors. Chimney will be removed when separate boiler house is built. Architects: Shore & Moffat, Toronto





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PLANNING GAINS (*Continued*)

"Montreal was the first Canadian city to establish a planning department with a qualified technical staff and a proper status vis-à-vis the other civic departments. Edmonton, perhaps the most active city on the continent today, has similarly set up a well-integrated planning department to assist it in meeting the vast problems ahead. Vancouver, after observing the procedure in Montreal and Edmonton, has also resolved to establish a department, and to set up a committee of the heads of the city's chief technical divisions to assure that town planning proposals form the actual program of the city's public works, school and park development, and so on."

Builder Awareness Reported

In Professor Bland's opinion, it is not only at the official level that the importance of good planning is being recognized.

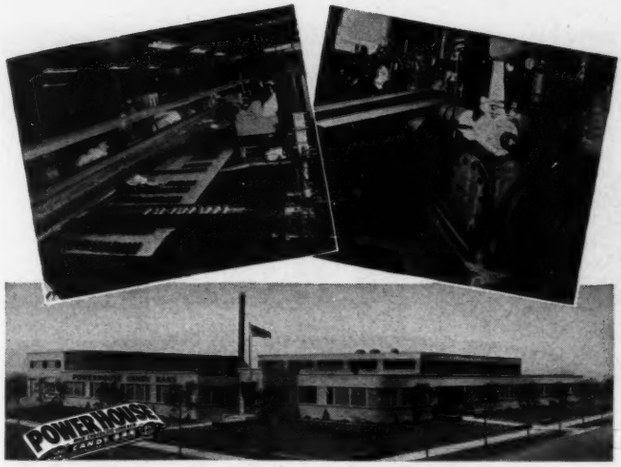
"Builders," he said, "are more aware that comprehensive schemes, having some design, some provision for common playgrounds, related to schools and shopping places and off heavily traveled roads, are more desirable as good, lasting residential areas.

"Buildings in such schemes are better risks than buildings strung along roads of any kind or closely and monotonously packed into dreary suburbs. Everywhere one finds a few builders making an effort to set up something pleasant. They may have learned a few techniques from across the border and I suppose the insurance companies, who have become the main building financiers, have lifted their standards, too."

Farm Market Sought for Plumbing and Heating

A national sales promotion and educational campaign aimed at farm and

(*Continued on page 292*)



at the Walter H. Johnson Candy Company . . .

it's VILTER Again

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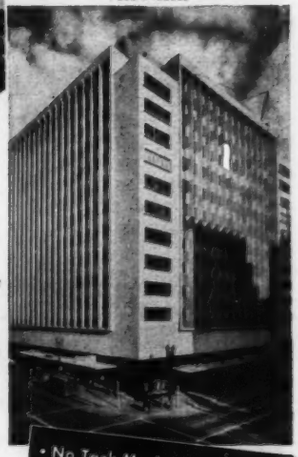
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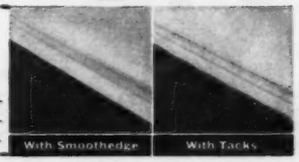
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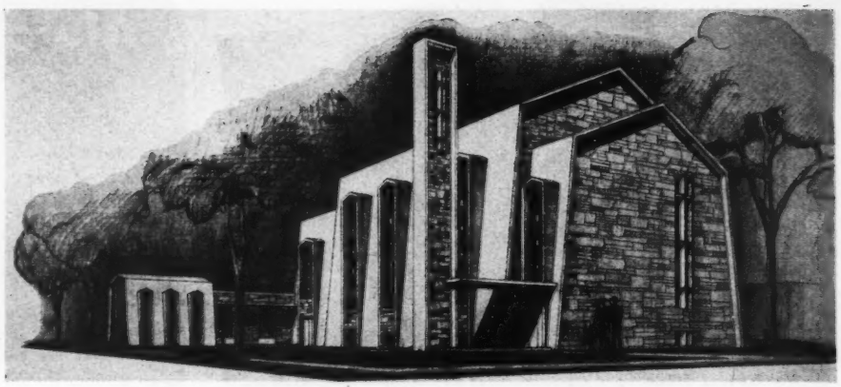
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CANADA

(*Continued from page 290*)



Knox Presbyterian Church, Goderich, Ont., has walls and roof of poured concrete, supported by three poured concrete hinged arches, with ends and Sunday School auditorium faced in stone. Architect: Philip Carter Johnson, London, Ont.



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FARM MARKET SOUGHT (*Continued*)

other rural citizens has been launched by the plumbing and heating industry.

After months in the planning stage, the many-sided program received official approval at the 19th annual general meeting of the Canadian Institute of Plumbing & Heating held recently in the Seigniory Club, Montebello, Que.

The marketing and merchandising program is designed to help the farmer rapidly increase agricultural productivity. The campaign also seeks to raise the standards of living in the farm and rural areas of Canada, which contain a quarter of the country's population.

Building Up 60 Per Cent For Ten Months of 1951

Construction contracts awarded in the first 10 months of 1951 were reported 60 per cent over the figure for the same period last year.

Value of construction contracts awarded in October was 45 per cent below the same month a year ago. Explanation is that the Labrador Railway was begun a year ago and accounted for $100 million of the $251,258,000 recorded for October 1950.

Figures for October, first month to register an award dip, provide the greatest possible contrast to last year. MacLean Building Reports Ltd., source of the figures, comments that last October every region was decidedly up over 1949, and with three exceptions every type of construction was higher in every region.

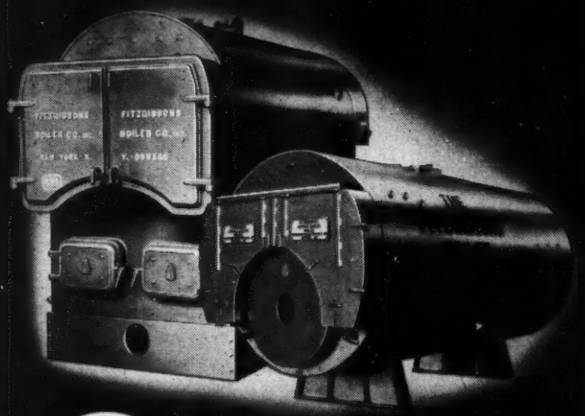
This year the only regional gain for the month is an increase of less than half a million in the West. Quebec, Ontario and the Maritimes are markedly down.

By type of construction only five

(*Continued on page 294*)

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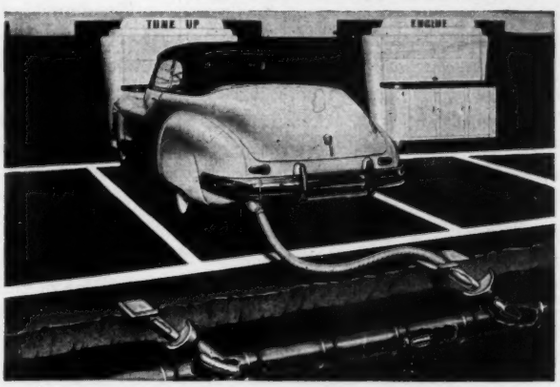
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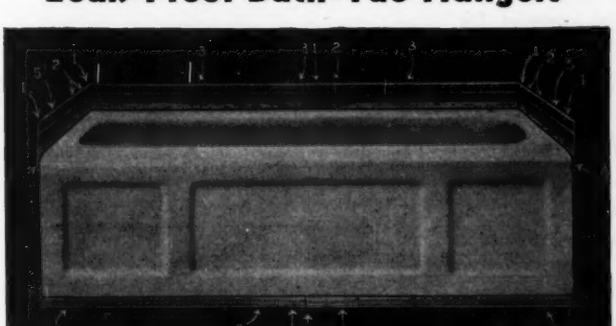
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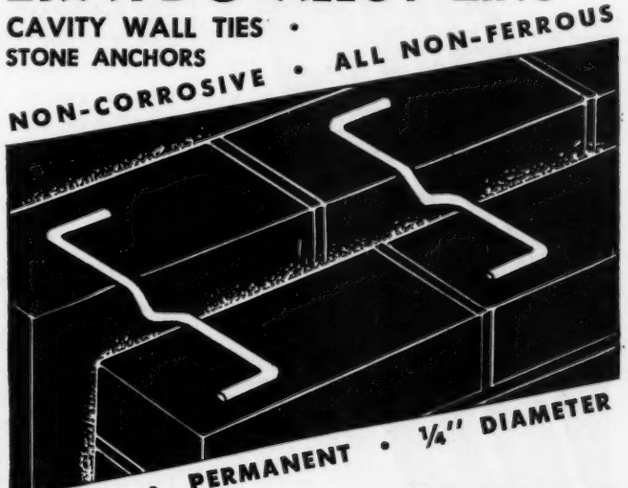
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THE RECORD REPORTS

CANADA

(*Continued from page 292*)

gains were registered over October 1950: engineering in the Maritimes and the West; industrial work in Ontario and the West; and commercial construction only in Ontario.

Housing Decline Continues

Residential construction was down sharply in all regions. The decline, amounting to $25.6 million, left the figure for the month at $29.2 million. Both the amount of drop and final total were almost the same as for September, and confirmed the downward trend shown for most of this year.

Of the total construction contract award volume of $139.1 million in October, $71.4 million or roughly 53 per cent is identified with jobs valued at $1 million or more.

There were three outstanding jobs for the month — a $15 million Hydro-Quebec development on the Outaquais River, a $12 million plant for Canadian General Electric, Etobicoke, Ont., and a $9 million plant for Consolidated Mining at Kimberley, B. C. A smaller hydro-electric development, valued at $5.1 million, was contracted for to provide power for Seven Islands, port for the Labrador iron ore project. Another major project was the $4 million award to finish Toronto rapid transit stations.

Total of contracts awarded for 10 months of 1951 was $2017.1 million.

Official Defends Policy of Housing Credit Flexibility

October was the sixth consecutive month to show a shrinkage in house building, and federal government policies on curtailment of mortgage credit were getting stiff criticism. In the short period of two years, steps were first taken to expand the volume of housing, then to curb it. Now indications are that it will be expanded again.

This flexibility in the official shelter policy was strongly defended by Dr. O. J. Firestone, economic adviser to Central Mortgage and Housing Corporation, in a speech at the inaugural meeting of the Federal District House Builders Association in Ottawa.

"When demand does not appear to be in line with available capacity, expan-

(*Continued on page 296*)

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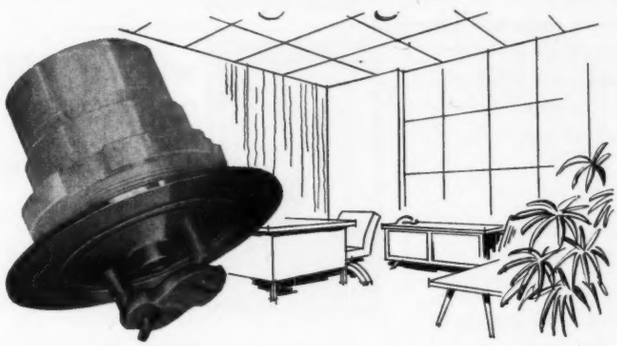
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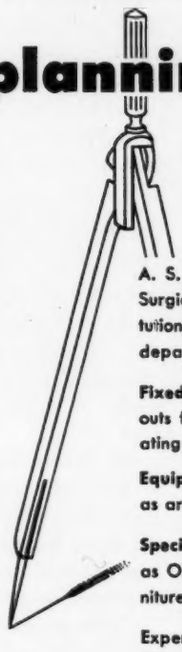
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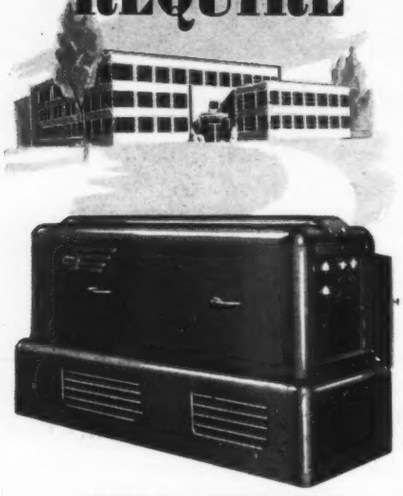
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THE RECORD REPORTS

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(*Continued from page 294*)

sion of demand is encouraged," he explained. "When demand appears to exceed capacity in prospect, measures are taken to reduce this demand in order to avoid bottlenecks and ease inflationary pressure coming from too large a capital expansion program.

Housing Goals Listed

"The approach of the government in formulating Canadian housing policy is embodied in a set of four principles which Resources Minister Winters put before the House of Commons recently.

"To quote, 'Insofar as it is within the capacity of the Government to influence the construction of houses, we would see to it (1) that people who had started houses would have an opportunity to complete them; (2) that special emphasis would be given to the building of houses where they are most urgently required for development of the defense program; (3) that Canadians would have an opportunity to build houses up to the limit of building capacity and materials available for the purpose; and (4) that the Government would take what reasonable steps it could to protect home owners against undue increases in the cost of houses.'"

Architect Arranges Exhibit For Trade Fair in Ontario

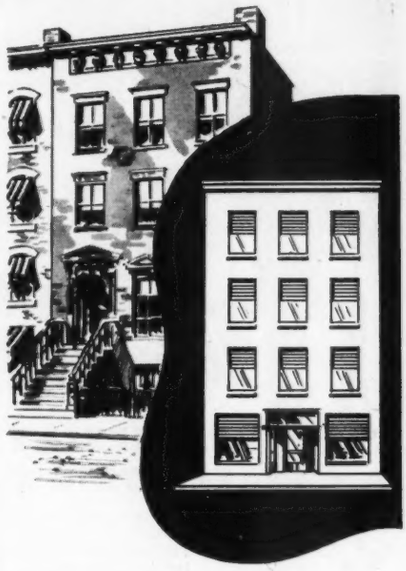
Leslie H. Kemp, Brantford, Ont., architect, made his own contribution to the current campaign for a wider public understanding of architecture at the recent Kiwanis Trade Fair in Brantford.

Mr. Kemp arranged an exhibition of architectural photographs and renderings and provided a well-documented catalogue for the thousands of visitors who thronged the display.

In the introduction, Mr. Kemp wrote: "This exhibition has been presented in an endeavor to convey to you as a citizen of this community the importance and responsibility attached to the work of an architect.

"The appearance of this city, including subdivisions and industrial areas, can only be improved and safeguarded by those trained in planning and design.

(*Continued on page 298*)



Good Rentals For Another 50 Years

The brownstone mansions which housed the 400 have long since been given over to rentals. Today, a great proportion of them have been modernized, their obsolete heating plants replaced

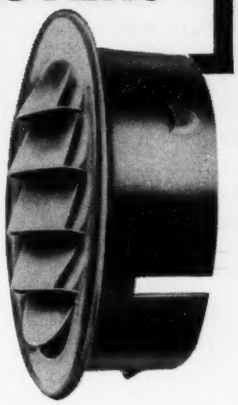


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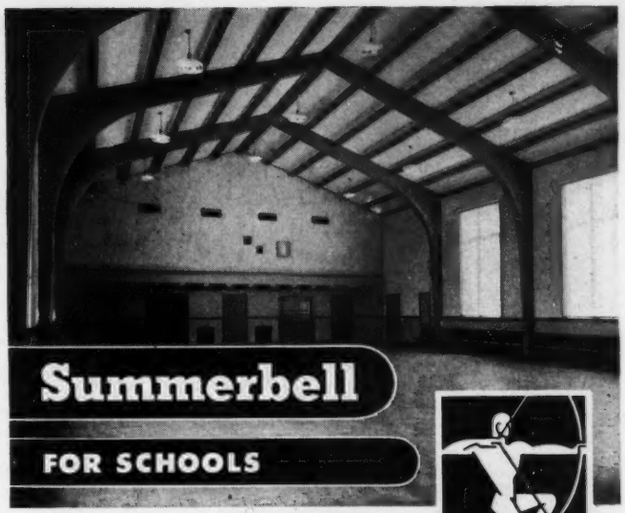
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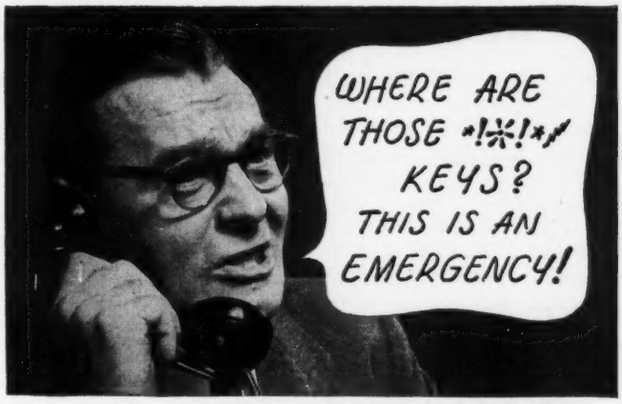
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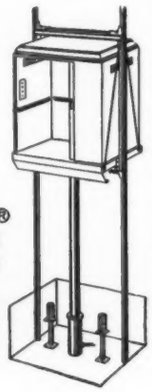
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THE RECORD REPORTS

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(*Continued from page 296*)

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Deny Reports of Excessive U. S. Forward Lumber Buying

Reports of a probable shortage of lumber for the domestic market next year because of excessive forward buying by U. S. interests are denied by W. J. LeClair, secretary-manager of the Canadian Lumbermen's Association.

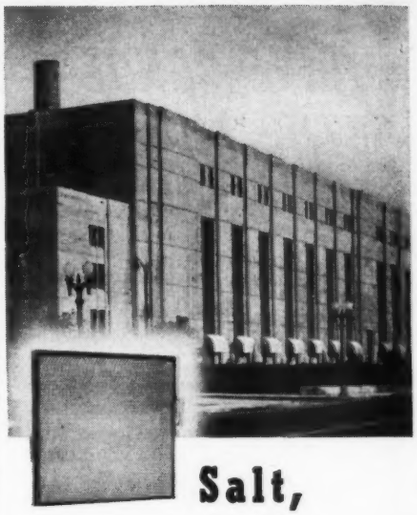
"Actually," he says, "U. S. buying has declined from its peak, though not dangerously. The position with respect to United Kingdom buying is not yet clear, but the recent U. K.-Russian agreement and Britain's increasing shortage of dollars gives rise to some concern. If there is a reduction in lumber production in Eastern Canada next year, it will be because of what many lumbermen consider to be the narrow interpretation of government credit restriction regulations."

Mr. LeClair believes that reports of a developing shortage were probably inspired by predictions that lumber prices will rise. Undoubtedly present stocks cannot be replaced at former costs. Government dues for timber on the stump have greatly increased, and Ontario has imposed a new logging tax. Both freight rates and wages are up, and labor is expected to be in short supply. "In no industry," he comments, "is the general cost of living more reflected than in lumbering. But the men and the horses in the camps must be fed."

Electrical Industry Group Formed to Raise Standards

Canada's electrical industry has announced formation of the Canadian Adequate Wiring Bureau. It will function as an educational and promotional organization to encourage better standards of residential wiring.

(*Continued on page 300*)



Salt, Sand and Steam

Located 150 yards from the ocean, the Southern California Edison Company's Redondo Steam Plant had a difficult air filtration problem. The blowers were located in the wall facing the ocean and the wall openings were covered by concrete hoods facing toward the ground. The corrosive salt air contained a large concentration of dust and sand, and it was necessary to handle a large volume of air—240,000 CFM—even though the design of the hoods made filter space limited.

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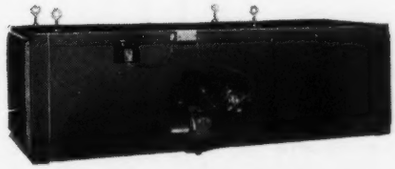
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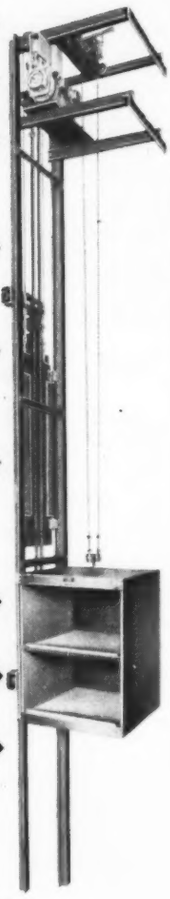
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THE RECORD REPORTS

CANADA

(*Continued from page 298*)

The Bureau is the first organization to combine all sections of the electrical industry at the national level. The premise that adequate residential wiring is everybody's business is borne out by the fact that manufacturers, utilities, electrical contractors, wholesalers and distributors are all pooling their forces to make the program a success.

Specifications to be Set Up

While it is not concerned with standards as such, since authority in these matters is vested in provincial and municipal governments, the Bureau will establish specifications for adequate residential wiring as opposed to the minimum standards now in general use throughout the country. Adoption of the "standards of adequacy" will be left to the discretion of builders, buyers and owners of homes. But it has been found that minimum standards are unsatisfactory for the efficient operation of the increasing amount of electrical equipment in daily domestic use.

Regional Leagues Planned

Considerable progress has been made in Ontario, British Columbia and Manitoba, where Electric Service Leagues have been doing an educational job of this type for some years past. The Canadian Adequate Wiring Bureau plans to establish similar regional leagues in other parts of the country. Surveys in those areas where leagues have been operating prove that an adequately wired house commands a higher market value than one which is wired to a minimum standard.

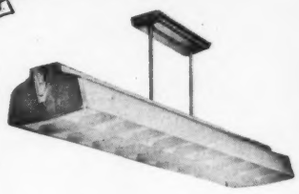
Rise in British Exports of Building Materials Reported

The United Kingdom boosted exports of building materials to Canada in 1950, according to a recent Ministry of Works report.

Overall gain on 1949 was 92 per cent, with the most striking advances in black sheets, tubes, pipes and fittings. Cement, steel plates and sheets, also in short supply here, showed substantial increases.

Only decrease was in asbestos products, due to expansion of Canadian manufacturing facilities.

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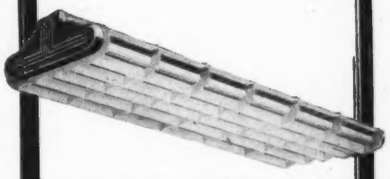


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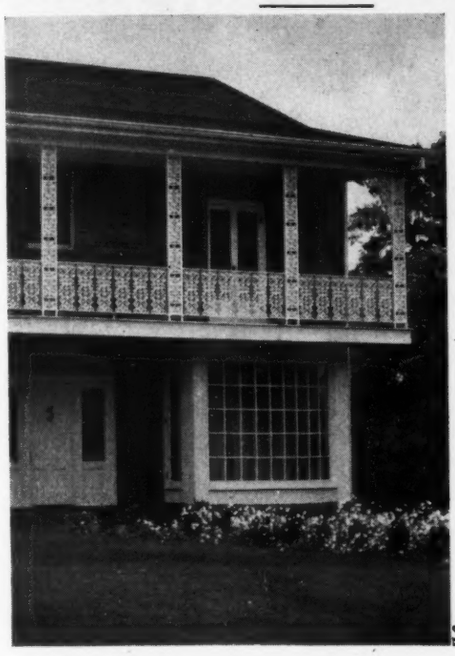
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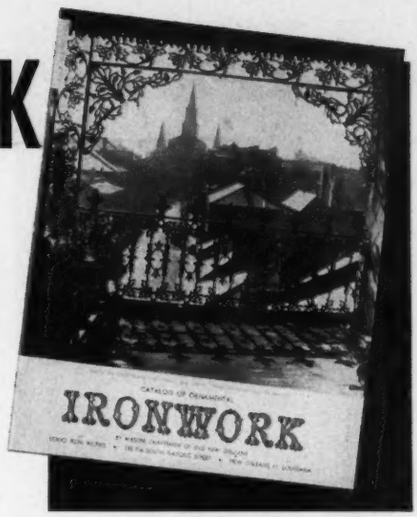
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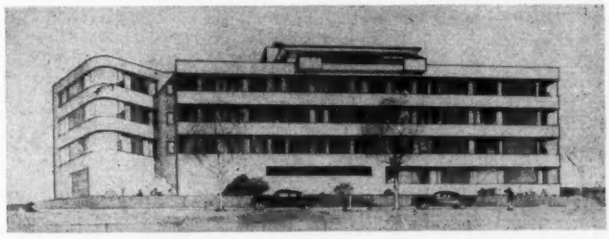
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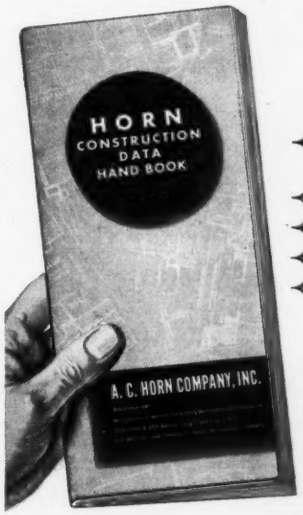
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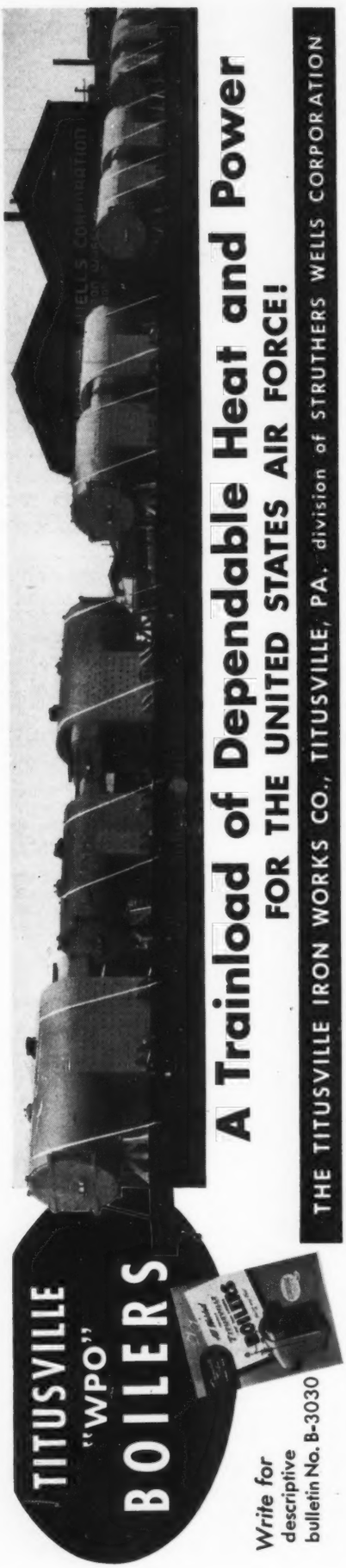
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REQUIRED READING

(Reviews continued from page 50)

intellect must be closely allied in a period to attain the highest achievements. The Greek and Renaissance periods stand out in his mind, above others, in intellectual and artistic unity and vitality. He thinks little of Egyptian art, which, he says, is immobile and uniform, reflecting primitive, undeveloped minds.

Mr. Phillipps died in 1917. One wonders what he might have said about the present trends in modern art, in view of his statement: ". . . when we see groups and landscapes misdrawn and presented to us in such attitudes and perspectives as cause them to look altogether misshapen and unreal, it is difficult for us to avoid the conviction that we are dealing with a race which was intellectually defective."

While the reader may find Mr. Phillipps' arguments sometimes arbitrary and sweeping, they are always original and cogent.

BOOKS RECEIVED

Twentieth Century Painting, 1900–1950. By Hugo Munsterberg. The Philosophical Library, Inc. (New York) — An analysis and evaluation of the major trends in 20th century painting as revealed in the works of Picasso, Matisse, Braque, Rouault, Klee and other leading artists of the modern school. Illustrated with reproductions of the artists' paintings.

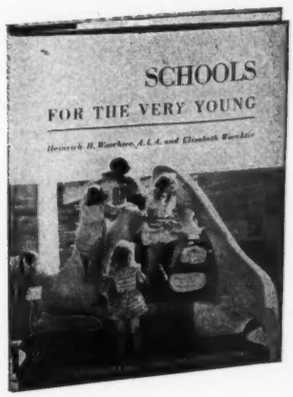
Heating Design and Practice. By Robert Henderson Emerick. McGraw-Hill Book Company, Inc. (New York) — A complete practical coverage of heating, providing methods for the design and operation of steam, hot water, and warm air heating systems — profusely illustrated with every day problems from actual working cases.

Het Eigen Huis. By J. P. Fokker. N. V. Uitgevers-Maatschappij "Kosmos" (Amsterdam-Antwerpen) — City and country homes in Holland. Photographs, plans and descriptive text.

The Power of Art. By John M. Warbeke. The Philosophical Library, Inc. (New York) — A broad and knowledgeable approach to the question of the function of fine arts and of artists in life.

Schools for the Very Young

by HEINRICH H. WAECHTER, A.I.A.
and ELISABETH WAECHTER



THOUGH many volumes have been written about school design, "Schools for the Very Young," a brand new book just off the press, is — so far as we know — the first in which an architect and a child educator have collaborated to provide an up-to-date treatise on the requirements of the particular type of school demanded for the proper training of the very young child.

Beginning with a brief yet adequate historical and philosophical background, in which the development of the theory and practice of child education is discussed, the book goes on to describe the pre-school in action, noting the events of the school day and the corresponding environmental needs of the children and their teachers. Examples of existing pre-schools are presented with critical comment. Detailed information is given concerning the space apportionments and arrangements called for by the activities peculiar to such institutions. Since one of the authors is especially concerned with city planning, the relation of the pre-school to its neighborhood and community is analyzed, and the many different types of pre-schools that have developed to meet special conditions are enumerated and explained.

The outdoor space and its proper equipment are thoroughly covered from the standpoint of a capable architect who has given much thought to the problem. Technological problems of construction, lighting, ventilation, mechanical equipment, etc., are scrutinized in the light of the most recent practice. A wealth of illustrations add both interest and information, and a selective bibliography will aid further study.

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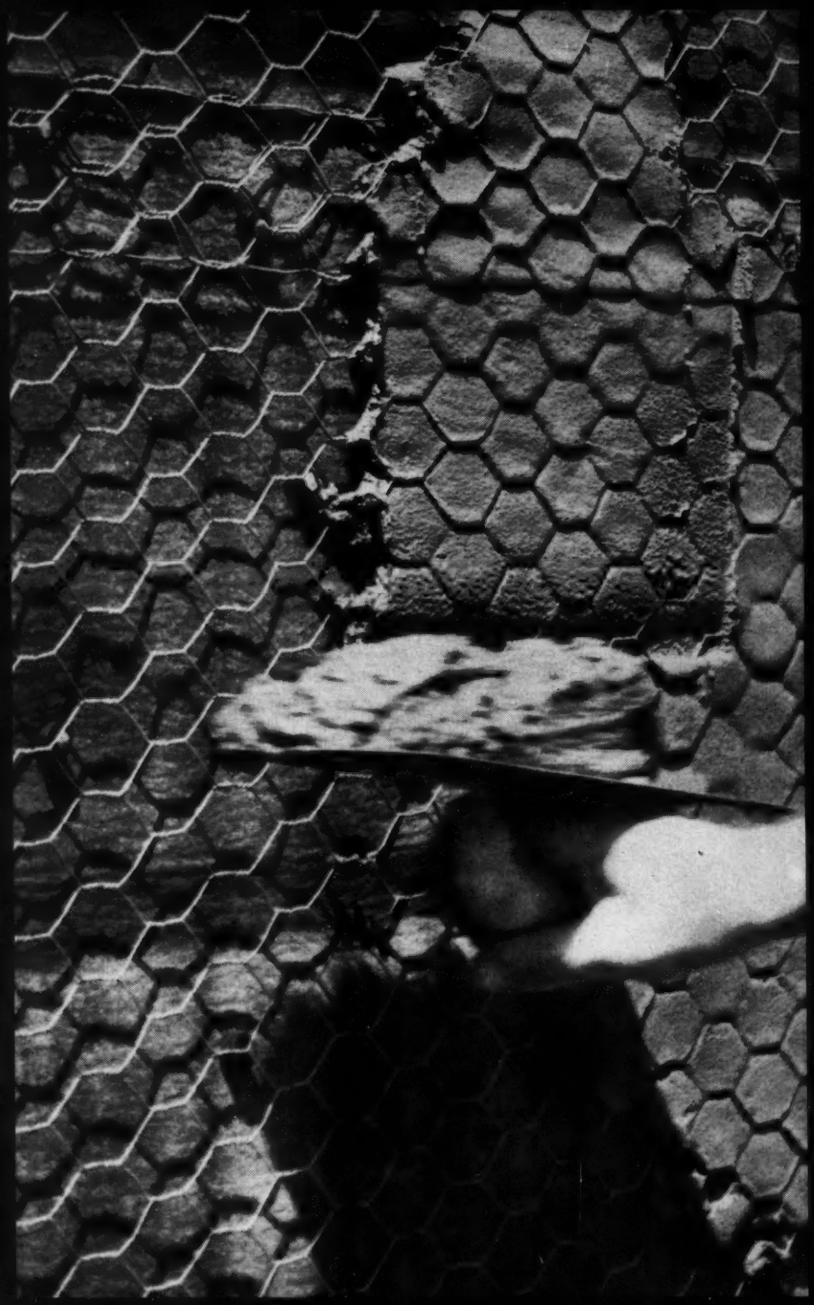
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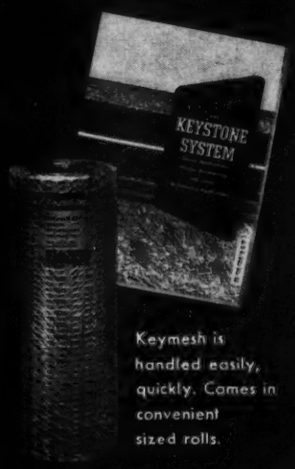
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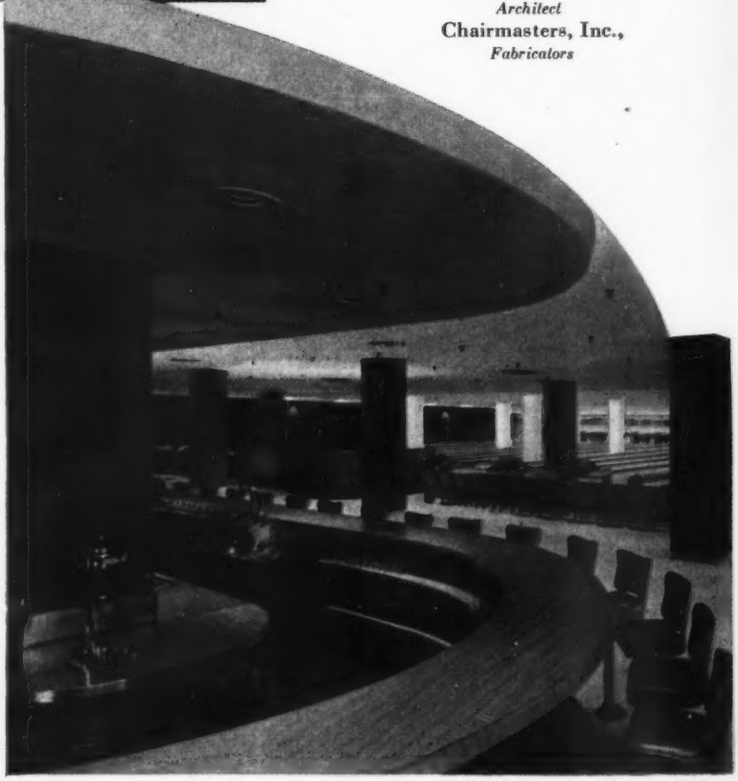
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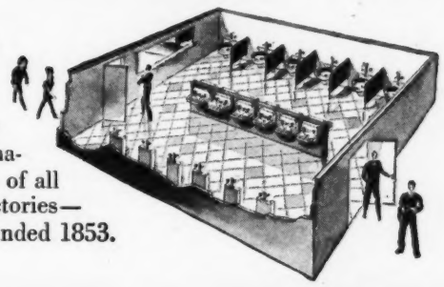
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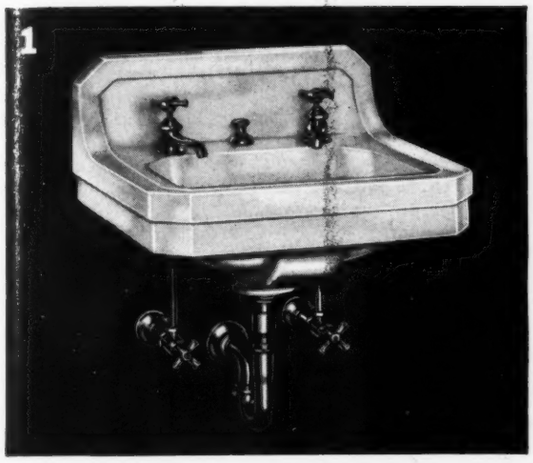


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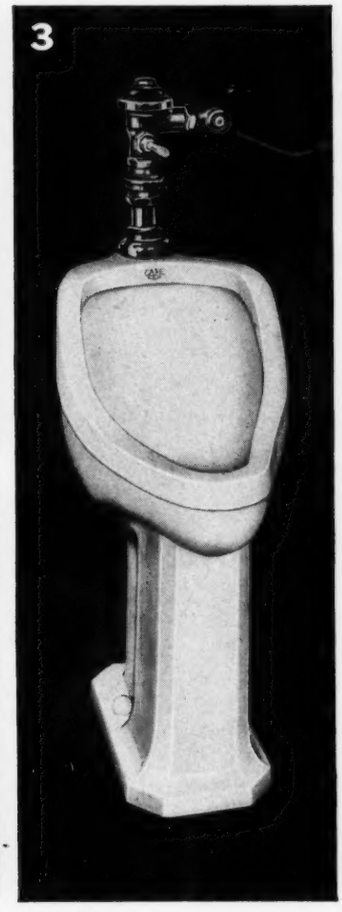
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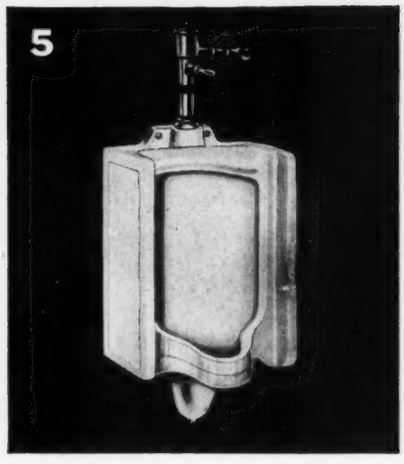












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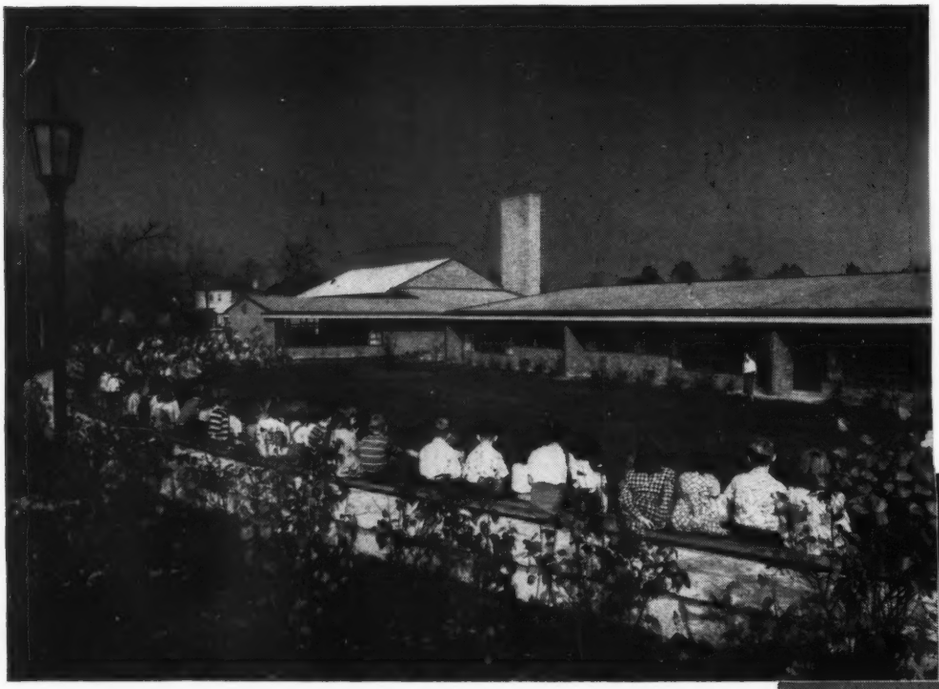
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